

## Price Increases Set for Ammonium Nitrate, Anhydrous

### New Schedules to Go Into Effect for October-December

Price increases have been announced by most basic suppliers for ammonium nitrate and anhydrous ammonia effective Oct. 1.

Spencer Chemical Co., Kansas City, has announced a \$2 per ton boost in fertilizer grade ammonium nitrate effective that date, with a \$4 increase effective Jan. 1, 1958. The new prices replace the price schedule of last May 28. The price differential between October and January follows the standard industry pattern of seasonal discounts, Spencer said.

Commercial Solvents Corp., New York, has announced a \$4 increase in ammonium nitrate for the October-December period, bringing the price to \$68 a ton, and another \$4 hike for the January-June period.

Monsanto Chemical Co.'s Inorganic Chemicals Division announced an increase of \$2 per ton on ammonium nitrate fertilizer effective Oct. 1. This will bring the price to \$68 per ton f.o.b. plants. Further increases announced to go into effect Jan. 1, 1958, will bring the price to \$72 ton f.o.b. plants at that time.

Increases are made necessary because of higher raw material production and transportation costs, Monsanto said.

Nitrogen Division, Allied Chemical & Dye Corp., New York, and Mississippi River Chemical Co., St. Louis, were among other suppliers announcing price rises.

A number of anhydrous ammonia suppliers announced that effective Oct. 1, the current \$8 discount per ton for anhydrous ammonia would be reduced to \$4.

Sohio Chemical Co., Lima, Ohio,

(Continued on page 20)

## USDA Proposes Change in Pesticide Label Regulation

WASHINGTON—The U.S. Department of Agriculture said Sept. 10 that it has proposed an amendment to regulations for labeling commercial pesticides in order to clarify its policy of not endorsing these products.

Under the proposed change USDA would consider a pesticide misbranded if its label carried "any statement directly or indirectly implying that an economic poison or device, or any ingredient or constituent element thereof, or combination of ingredients, is recommended or endorsed by any agency of the federal government."

Officials of USDA's Agricultural Research Service charged with enforcing these regulations point out that labels on some commercial pesticides bear such claims as: "Formula Recommended by the U.S. Department of Agriculture," or "Active Ingredients Recommended by the U.S. Department of Agriculture." Claims of this kind have been interpreted to mean the product itself is USDA-endorsed, USDA said.

The notice in the Sept. 10 Federal Register gives 30 days for any interested person to express views on the proposed amendment to the Regulations for the Enforcement of the Federal Insecticide, Fungicide and Rodenticide Act. Written views may be sent to Plant Pest Control Division, Agricultural Research Service, U.S. Department of Agriculture, Washington 25, D.C.

## Arkansas Company Building Liquid Plant

PATTERSON, ARK. — Farmers Granary here is constructing a new liquid fertilizer plant, which will be ready for production this fall. Capacity will be 20 tons an hour. The plant will be housed in a 40 ft. by 60 ft. structure.

## Fertilizer to Return \$3 for Each \$1 Spent, Speakers at Kentucky Conference Estimate

LEXINGTON, KY.—A wide range of beneficial results in tests of the application of fertilizer was reviewed at the tenth annual fertilizer conference at the University of Kentucky Agricultural Experiment Station here recently. Results obtained at test fields throughout the state and by farmers were cited by speakers and by representatives of the fertilizer industry.

Farmers are increasing their profits by following the recommendations of the experiment station and by noting results obtained by farmers who apply fertilizer according to the

latest research findings, it was stated.

About \$35,000,000 will be spent for fertilizer in Kentucky this season. While it will never be known exactly how much this will add to farmers' incomes, it might be reasonable to expect it to be three times this figure, speakers said.

Noting how farmers are becoming educated in better ways of using fertilizers, conference speakers said that a million dollars or more would be saved this season by using higher analysis fertilizers. Kentucky farm-

(Continued on page 17)

## New Pesticide Materials Described at American Chemical Society Meeting

By LAWRENCE A. LONG

Editor of Croplife

NEW YORK—Descriptions of new pesticidal materials and papers covering technical aspects of fertilizers and their production were featured in portions of the 132nd meeting of the American Chemical Society held in New York Sept. 8-13.

The pesticides subdivision, under the chairmanship of Wendell F. Phillips, Beech Nut Packing Co., heard technical papers on toxicological studies on pesticides; introductions to three new compounds; and methods of determining certain spray residues.

New materials described at the meeting included "Niagara 1240," "Phostex," a new organophosphorus pesticide; and "Sevin," a wide spec-

trum carbamate insecticide. The first two are products of the Niagara Chemical Division of Food Machinery and Chemical Corp.; and the third is made by the Carbide Chemicals Co. of Union Carbide Corp.

A paper by Joe R. Willard, John F. Henahan, E. F. Orwell and Jack R. Graham, Middleport, N.Y., said that "Niagara 1240" possesses "outstanding miticidal properties as well as excellent activity against various insect species." The product is designated as bis [S-(dihydroxyphosphinothioyl)mercaptol]-methane.

Phostex, a new organophosphorus pesticide, also developed by the Niagara Chemical Division, was described in a paper by Joe R. Willard, John F. Henahan and S. K. Reed, Middleport, N.Y. The most active component of the compound was reported to be [(Ethoxy) (2-propoxy) phosphinothioyl] (diethoxy-phosphinothioyl) disulfide.

The story of "Sevin" was presented by Joseph A. Lambrecht and John R. Kilsheimer, New York. They said that the product, known chemically as 1-naphthyl-N-methylcarbamate, is a new insecticide, broad in scope, possessing good residual properties, and "relatively safe to mammals." They reported that the material was previously known as "Compound 7744," and has had four years of extensive field testing.

Stacy Randle, New Brunswick, N.J., was chairman of a session of the division of fertilizer and soil chemistry at the meeting. A study of anhydrous ammonia from the standpoint of its economic value was presented in a paper by Dr. Arthur M.

(Continued on page 20)

## NAC Hears of Influences on Pesticide Buying

By JAMES W. MILLER

Croplife Editorial Staff

SPRING LAKE, N.J.—Dealers and sales personnel tend to lag behind other informational agencies in influencing farm people to accept most new agricultural products and practices, according to Dr. Joe M. Bohlen and Dr. George M. Beal, agricultural sociologists who appeared before the National Agricultural Chemicals Assn. here Sept. 6.

On the other hand, dealers and salesmen do play an important role in assisting farmers during the trial and final acceptance stages of using pesticides and fertilizers on the farm, they reported.

Mass media including newspapers, magazines, television and radio; government agencies such as county agricultural agents, extension services and agricultural colleges; and neighbors and friends are influential in introducing the average farm product or method, the two members of the department of economics and sociology at Iowa State College reported in their two-hour presentation, "What Motivates Growers to Buy Pesticides."

The speakers brought a highly informative series of facts to the NAC discussion as a result of ten years of research with farm families throughout most of the U.S. Dr. Bohlen and Dr. Beal stressed that the presentation was a "progress report" since interviewing and research will continue and new facts will be added to the project as they are obtained. The team gave a similar re-

(Continued on page 20)

## GSA Asks for Bids on Fertilizer for Iran

WASHINGTON — Bids for small quantities of fertilizer, to be sent to Iran under the Mutual Security Program, have been asked by General Services Administration. The materials are 18 short tons of ammonium sulfate, 6½ short tons of sulfate of potash and 12 short tons of triple superphosphate. Bids will be accepted until Sept. 30. Material must be available for loading at port of shipment by Nov. 25.

## Inside You'll Find

Insect, Plant Disease Notes	4
Patents and Trademarks	6
Over the Counter	9
What's New	10
Oscar & Pat	14
Farm Service Data	15
Editorials	22
Meeting Memos	23
Index of Advertisers	23



## Changes in Conservation Reserve Of Soil Bank Are Announced

WASHINGTON—Greater encouragement of participation by whole farm units and increased emphasis on forestry and wildlife practices are among the major changes that have been made in the 1958 conservation reserve program of the soil bank, Marvin L. McLain, acting secretary of agriculture, has announced.

The conservation reserve is the long-time phase of the soil bank under which farmers contract to divert general cropland to soil, water, forestry and wildlife conservation practices. In return, farmers receive two types of payments on the diverted acreage: (1) a cost-sharing payment (up to 80%) the year they apply a conservation measure; and (2) annual per-acre rental payments each year the land is under contract.

"The changes that have been made

in the 1958 conservation reserve should result in an increased diversion of currently used cropland to conservation uses," Mr. McLain explained. "Based on experiences during the first full year of operation of the program, they will provide a more equitable opportunity for more farmers to participate.

"Among the additional incentives being offered farmers to divert more land to conservation uses, is an authorization under the 1958 program for county agricultural stabilization and conservation committees to increase annual payment rates, where such increases can be justified, for land to be planted to forest trees and for whole farms retired from production.

"We have found that the diversion of whole farm units usually results

in a larger average reduction in crop production than is accomplished where only a part of the cropland on a farm is put in the soil bank. Land going into forest trees is land going out of production almost permanently, it might be said.

"Other important changes in the 1958 program are designed to make it more attractive in areas where summer fallowing of land is practiced and to farmers devoting a large portion of their cropland to tame hay.

"Beginning in 1958, we will offer 5 or 10-year contracts, at the option of the producer, for land devoted to trees or shrub plantings for shelterbelt, windbreak or wildlife habitat purposes. Previously, all tree and shrub plantings were under 10-year contracts only. This 10-year requirement will remain in effect for tree plantings for forestry purposes."

The conservation reserve program is open to all farmers, whether or not they have an acreage allotment for "basic" crops. To participate, a far-

mer signs a contract with his county ASC committee agreeing to divert a certain number of acres of cropland to conservation uses for periods of 5, or 10 years. Under 5 and 10 year contracts he will receive a cost-sharing payment the year that a conservation use is established. Under a contract annual per-acre rental payments are made each year the contract is in force and complied with. These payments are designed to maintain net income on the farm as the land is shifted from cultivation to conservation uses. Dividends for the future accrue from the benefits of the soil, water, forestry, and wildlife improvements on the farm.

Under the existing conservation reserve program, in addition to the land diverted out of soil-depleting crops at the full annual payment rate, other eligible land, such as hay land, may be put in the reserve at a "non-diversion" rate—30% of the regular annual payment rate. Heretofore, farmers with a soil bank base over 30 acres had to put all eligible cropland in the program before they could put additional land at the non-diversion rate. Farmers with a "base" of 30 acres or less could put any part of their eligible cropland in the program at the full rate and any part of the remaining eligible land in at the non-diversion rate.

These provisions have been changed under the 1958 program to encourage farmers to put whole farms in the reserve and to increase forest tree plantings. County ASC committees are authorized to raise the non-diversion rate up to 50% of the regular rate when all eligible land on a farm is placed in the conservation reserve or when any land is placed in the program to be planted to forest trees. County committees also are authorized to raise the non-diversion rate up to 100% of the regular rate when the entire eligible acreage on a farm is placed in the conservation reserve and all the land is planted to forest trees.

USDA officials stressed that when these higher non-diversion rates are granted they must be warranted. In such cases, the county ASC committee must find that the land value, rental rate, or productivity of the farm justifies such a higher rate.

Farmers with soil bank bases over 30 acres also will be permitted to put land in the conservation reserve at the non-diversion rate up to the number of acres they put in the program at the regular rate. They also will be allowed to put any acreage in the conservation reserve at the non-diversion rate that is to be planted to forest trees.

This change will permit a farmer who normally summer fallows land to put in the conservation reserve an acreage of land which he would normally summer fallow equal to his acres taken out of production. It will benefit those farms which have a large part of their cropland continuously devoted to the production of hay.

Other changes include:

The farm soil bank "base" under the conservation reserve will be established as it is under the acreage reserve—the average amount of land devoted to soil bank base crops on the farm in 1956 and 1957. Where a "base" already has been established for the farm for the acreage reserve, the same "base" will be used for the conservation reserve.

Beginning with payments for 1957, annual payments will be made only after Oct. 1 of the calendar year in which they are due. This not only will provide uniformity in the time making such payments, but also should reduce any inclination to non-compliance after payments have been made, officials explained.

Provision has been made to prevent a producer from breaking out non-cropland on a farm covered by a conservation reserve contract, unless the county ASC committee approves and an equal amount of cropland on the farm is retired to non-crop use.



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## INSECT AND PLANT DISEASE NOTES

## Screw Worms Infest South Dakota Livestock

**COLLEGE STATION, S.D.**—A screw worm outbreak developed in Corson and Dewey counties recently. Reports are that this infestation extends into North Dakota. Ranchers and farmers are advised to check livestock for infestations and to treat all cases promptly with effective medication.

Stored grain insect activity is increasing. All infested grain in the bin should be fumigated thoroughly now. Fumigation during the warm fall days is much more effective than when it's cold.

Many inquiries about controlling crickets are coming in.

## No Sign of Resistant Weevils in Tennessee

KNOXVILLE, TENN. (Sept. 9)—Cotton continues to mature rapidly all over the area with picking going on in the majority of fields in the southern part of the state. Late cotton is maturing fast since dry weather set in.

Boll weevil migration is still taking place to the northern counties. Numerous adults can be found in Dyer, Obion and Lake counties. Cot-

There has been no sign of resistant weevils this year. Some growers have been concerned about the finding of large numbers of adults after insecticide applications. This was probably due to the hatching out of weevils from the fallen squares and heavy migration.

Infestations are becoming more general in Lake County but some fields show only a few weevils at this time. There are more weevils present in the fields all over West Tennessee than there have been since the bad year of 1950. This is the first time in many years that weevils have caused any damage up as far as the northern counties. Since we know that some weevils survived the winter in the northern counties we will probably have some that will get through this winter and will be around to infest next year's crop.

Boll worms have increased slightly over last week and damage is still occurring in late cotton. More small worms are being found at this time. Spider mites are becoming heavier but are not expected to hurt late cotton. There has been a rather sharp buildup since dry weather set in.—R. P. Mullett.

## Cotton Insects Busy in Arizona

**PHOENIX** (Sept. 7)—Cotton harvest is in progress in all parts of Arizona, and excellent grades are being secured. In the eastern part of the state, particularly in Greenlee, Graham, Cochise, Pima and Santa Cruz counties, the cotton leaf worm continues to be a problem. Late cotton, as well as heavy fruiting cotton, may be injured by the next generation of this insect.

A field check in Greenlee County found one field of only a few acres that was not treated for the control of the cotton leaf worm, and the plants were more than 70% defoliated. The next generation will completely defoliate and injure many small bolls if not controlled. Some growers in the Duncan, Franklin and York areas may have to apply insecticides if the present hatch materializes.

Bollworms are quite heavy in some areas of Graham County, and airplane dusting is in progress. Some fields have also been dusted for the cotton leaf worm. Lygus continue to be a problem in late cotton in Pima and Santa Cruz counties, and the cotton leaf worm is present in most areas.

The cotton leaf perforator con-

A map of the United States showing the distribution of three types of industries in 1950. The map uses three patterns to indicate the level of industrial activity in each state:

- Heavy:** Represented by a solid black fill. This pattern is used for Colorado.
- Increasing:** Represented by diagonal hatching. This pattern is used for Illinois, Indiana, Michigan, and Ohio.
- Present to economic:** Represented by a dotted pattern. This pattern is used for Nevada, Utah, Arizona, New Mexico, Texas, Oklahoma, Kansas, Nebraska, South Dakota, North Dakota, Minnesota, Wisconsin, Illinois, Indiana, Michigan, Ohio, Pennsylvania, New York, Vermont, New Hampshire, and Maine.

tinues to be a problem in parts of Pinal County, and a few bollworms and loopers are also causing concern. Some late fields are still being severely injured by lygus. A few cotton leaf worms showed up in the Eloy area and should be watched very closely.

## Alert Out on Earworm Outbreak in Virginia

**BLACKSBURG, VA.**—Outbreaks of corn earworms and fall armyworms are still possible in Virginia. There is still enough time for another partial, if not whole generation, of earworms to appear this year, and areas where controls have not been applied can expect trouble. Fall armyworm outbreaks also are still a possibility.

Green cloverworms also are showing up in scattered parts of the state. Control is not generally recommended on alfalfa or soybeans.

Heavy damage to turkey legs from chiggers has been reported in Rockingham County. One farmer lost around \$1,500 because the grade of the bird was lowered from No. 1 to No. 3. The processors had to cut so much meat from the legs that they could not be sold as drumsticks. Research is planned on the control of chiggers on birds and on the range.—Arthur P. Morris.

## Varied Insect Damage Reported in Delaware

**NEWARK, DEL.** — Mimosa webworms are damaging mimosa trees in local areas throughout Delaware. Norway maples in various areas are being attacked by an aphid which is causing leaf drop.

Downy mildew disease has been found near Smyrna. Corn earworm moths continue to be abundant in

late bean fields. The green cloverworm is increasing on late beans in the Greenwood and Laurel areas. Mexican bean beetle larvae have been observed at Clayton. Cauliflower is being damaged by the cabbage aphid near Rising Sun.

## Spotted Alfalfa Aphids Active in Kansas

**MANHATTAN, KANSAS**—The large yellow grasshoppers have decreased in numbers and should not be a threat to fall seeded wheat and alfalfa. The small second generation lesser migratory grasshopper can be found over most of the state and in some areas will be damaging fall sown wheat and alfalfa.

**Spotted alfalfa aphids are found throughout the state on tender alfalfa plants. They may build up on seedling alfalfa to destroy stands this fall.**

Fall armyworms are still abundant in late planted corn. One field of early planted rye in Brown County was found heavily infested with fall armyworms. The fall armyworms may feed on rye wheat or alfalfa that is planted this fall.—David L. Mathew and Dell E. Gates.

## Aphid Control Advised In Colorado Potatoes

**FT. COLLINS, COL.**—It's do or die for the aphids which have made an all-out invasion of Colorado potato fields.

They will do considerable damage unless growers cause them to die through the use of insecticides, according to the latest report of the Colorado Insect Detection Committee. Most concern is felt for potatoes being grown for certification in northeastern Colorado and the San Luis Valley.

In other insect activity, infestations of the corn earworm and fall armyworm have reached 100% in field corn in the Arkansas Valley and western slope. Counties affected include Prowers, Bent, Otero, Pueblo, Montrose, Delta, and Garfield.

In Mesa County field surveys reveal large populations of alfalfa cat-



pillars. They have been taken at the rate of 100 larvae per 100 sweeps. New alfalfa plantings have been damaged extensively.

Light trap collections at Greeley (Weld County) indicate decreased but still active populations of destructive insects. The list includes cutworm, clover cutworm, grass webworm, sugar beet webworm, variegated cutworm and cabbage looper.

Populations of the pea aphid are on the upsurge, especially in Montrose and Otero counties. Lady bird beetle populations also are on the increase in some areas. No change has been noticed in distribution of the spotted alfalfa aphid the past week. Predators may be holding populations in check in some areas.

In Montrose County, high populations of tuber flea beetles have been reported on potatoes.

Heavy damage from the pear slug has been observed in commercial plantings of sour cherries in Larimer County.

Entomologists have found heavy white populations in apple orchards in Montrose and Delta counties. In the Palisades area of Mesa County, it is reported that peach silver mites are on the increase.

### Downy Mildew Threatens Arkansas Cucumbers

FAYETTEVILLE, ARK.—A secondary infection of downy mildew on marketer cucumber was found at University Farm near here. Sporulation was very heavy.

Weather conditions have been favorable for the spread of downy mildew.—Monroe J. Goode.

### Corn Earworms Active in Maryland Beans

COLLEGE PARK, MD.—Corn earworms are about at peak activity in lima and snap beans. Cloudy weather in September and October may bring on trouble with vinegar gnats, also called fruit flies and Drosophila. The flies lay eggs in cracks made in handling the ripe fruit and some are laid in growth cracks. The eggs bring on a contamination problem in canned fruit.

A geranium stem thoroughly hollowed out by termites has been received. The insects had invaded the plants after infesting stakes or other wood in the garden, it is assumed.—Theo. L. Bissell and Wallace C. Harding, Jr.

### Spray Combats Forest Pest in California

TUOLUMNE MEADOWS, CAL.—Some 6,600 gal. of insecticide were sprayed from a helicopter recently to combat the spread of the lodgepole needle miner now infesting the high Sierra country of California.

About 330 acres are being covered because the spread of the insect has reached "epidemic" proportions, according to Emil F. Ernst, Yosemite Park forester. Test sprays a few weeks ago found chemical attack was a good weapon. A solution of malathion mixed with diesel oil has been used in the attack. Southern Helicopters of Van Nuys undertook the project.

A special motor had to be installed in the helicopter doing the spraying because of the high altitude of the spraying operations.

### Grasshoppers Feed on Wisconsin Forage Crops

MADISON, WIS.—Grasshoppers continue to feed on forage crops and corn during favorable weather. Various locations currently report large numbers and damage. Populations appear to be somewhat further advanced in areas of the state which received less rainfall. Migrations have occurred in Waushara County.

Corn earworm larvae in ears of

corn will be more common from now on. European corn borer first brood pupation average 15.7% in Waupaca, Wood, Portage and Marathon counties. Except in Marathon County moths had emerged and all but 5% of the borers were in the last larval stage.

Surveys have uncovered no evidence of the spotted alfalfa aphid in Wisconsin alfalfa thus far this year. Pea aphids are now present in much of the alfalfa and red clover acreage of the state in which crops overwintering eggs will be laid later this season.

Tomato hornworm adult moths are now being caught in increasing numbers in some blacklight traps. About 20% of the canes in a Dane County raspberry planting were infested with raspberry caneborer and about 10% of the canes had swellings caused by larvae of the red-necked caneborer.—Phil Smith.

## Union Carbide Announces New Experimental Insecticide

NEW YORK—Union Carbide Chemicals Co., Division of Union Carbide Corp., has announced a new experimental insecticide which will be sold under the trade-mark Sevin. The product, which is undergoing extensive tests by state and federal agricultural experiment stations, introduces a "radically different" type of chemistry to the insecticide field, the company said.

Composition of the new product is in no way similar to established insecticides, and toxicology work in progress indicates Sevin will rank as one of the safer insecticides, according to the firm.

Sevin is an aryl urethane; its chemical name is 1-naphthyl N-methylcarbamate. Carbide expects to market the insecticide after collection of

toxicity data and compliance with federal pesticide regulations are completed.

The new product has a broad scope of insecticidal activity and good residual properties, and entomologists who worked on Sevin's development found it promises outstanding control, particularly of many leaf-feeding beetles and hard-to-kill moth and butterfly worms, the company said.

In tests to date, Sevin has controlled codling moth, red-banded leaf roller, apple aphids and plum curculio on apples, and pink bollworm, bollworm, boll weevil and other cotton insects. In addition, it is being widely tested on vegetables, with some experimental applications on forage, tobacco, and ornamentals.

Formerly called compound 7744, Sevin experimental insecticide is being tested by Carbide researchers in cooperation with state and federal agricultural experiment station scientists.

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## Industry Patents and Trademarks

2,804,420

**Insect Toxicant.** Patent issued Aug. 27, 1957 to Albert A. Danish and Rex E. Lidov, Denver, Col., assignors to Shell Development Co. As a new chemical compound, 1,2,3,4,6,9,10,10-octachloro - 1,4,4a,5,6,7,8,8a - octahydro - 1,4,5,8 - dimethanonaphthalene having when substantially pure and in crystalline form a melting point of 152.5° C. to 154° C. A pesticidal composition of matter comprising 1,2,3,4,6,9,10,10 - octachloro - 1,4,4a,5,6,7,8,8a - octahydro - 1,4,5,8 - dimethanonaphthalene having when substantially pure and in crystalline form a melting point of 152.5° C. to 154° C., and a pesticide adjuvant therefor.

2,804,383

**Complete Concentrated Mixed Fertilizer.** Patent issued Aug. 27, 1957, to Robert D. Pike, Greenwich, Conn.;

Kenneth B. Ray and the Stamford Trust Co., executors of said Robert D. Pike, deceased. A method of producing a highly concentrated granular mixed fertilizer, which is resistant to absorption of atmospheric moisture, wherein the  $N_2$  is derived principally from  $KNO_3$ , and the fertilizer contains the principal plant foods  $N_2$ ,  $P_2O_5$  and  $K_2O$  in total concentration of at least about 50% and in a desired relative proportion by weight within the ranges of from about 3.2-5.3 of  $N_2$ : from about 9.3-12.8 of  $P_2O_5$ : from about 8.0-12.9 of  $K_2O$ , which comprises forming an aqueous body containing a solution of  $KNO_3$ , which is present in an amount sufficient to supply not less than about 70% of said  $N_2$ , and is substantially free of  $NaNO_3$ , and an amount of a plant food substance selected from the group consisting of (1) a potassium salt other than ni-

trate and (2) a nitrogen solution, in a quantity which adjusts the content of one of the plant foods  $N_2$  and  $K_2O$  to the desired relative proportion within the above stated range of  $N_2$  and  $K_2O$ , mixing this adjusted aqueous body with a quantity of concentrated superphosphate supplying all of the desired  $P_2O_5$ , within the above stated range of  $P_2O_5$ , thereby forming a fluid aqueous mixture, and drying the fluid mixture to produce a granular fertilizer mix, said mix having at least 90% of its content by weight in the form of said  $KNO_3$ , and said superphosphate, said  $KNO_3$  supplying not less than about 70% of the  $N_2$ , said mix having a total plant food nutrient content in excess of 50%.

2,805,125

**Methods and Apparatus for the Manufacture of Ammonium Sulfate.** Patent issued Sept. 3 to Joseph van Ackeren, Pittsburgh, Pa., assignor to Koppers Co., Inc. A process for recovering the ammonia of coke oven gas as crystals of ammonium

sulfate comprising the steps of dividing a solution which is dilute to its content of sulfuric acid and saturated as to its content of ammonium sulfate into two portions, contacting one of said portions with said gas in an absorption zone with the acid of the solution to increase the ammonium sulfate content of said one portion, removing water from the other portion in an evaporation zone so as to increase the ammonium sulfate content of said other portion, thereafter combining said portions, and passing the combined portions through a bed of ammonium sulfate crystals in a crystallizing zone, whereby the excess ammonium sulfate crystallizes out and the solution remaining provides said first named solution to continue the process.

2,805,138

**Process for the Preparation of Artificial Fertilizer.** Patent issued Sept. 3 to Jacob Poldervaart, Maassluis, Willem Arie Kuyvenhoven Maasdijk, Teunis Cornelis van der Dool, De Lier, and Arie 't Hart Maassluis, Netherlands. A process for preparing a fertilizer from the contaminated fuller's earth resulting from the use of fuller's earth in the treatment of hydrocarbons in oil refineries, said contaminated fuller's earth containing absorbed oil, comprising feeding said contaminated fuller's earth to a cylindrical combustion zone axially thereof, supplying sufficient oxygen to said zone to incompletely burn said contaminated fuller's earth, agitating said contaminated fuller's earth during said incomplete burning to produce relatively small particles, passing said incompletely burned particles radially outwardly of said combustion zone to an annular zone of combustion surrounding said cylindrical zone, supplying further oxygen to said annular zone sufficient to complete the burning of the incompletely burned particles and to form a fine ash and passing said fine ash out of said annular zone in a direction which is parallel to and in the reverse direction from the direction in which said contaminated fuller's earth is fed to said cylindrical combustion zone.

2,805,184

**Chalcane Dichloride and Insecticidal Compositions Thereof.** Patent issued Sept. 3 to Samuel F. Clark, University, Miss. An insecticide comprising a chlorinated insecticidal hydrocarbon and 1,3-di(4-chlorophenyl)-2,3-dichloro-l-propanone.

### Industry Trade Marks

The following trade marks were published in the Official Gazette of the U.S. Patent Office in compliance with section 12 (a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. (See Rules 2 to 20.5.) As provided by Section 31 of the act a fee of \$25 must accompany each notice of opposition.

**Dorlone**, in capital letters, for soil fumigant. Filed July 26, 1956 by Dow Chemical Co., Midland, Mich. First use Feb. 20, 1956.

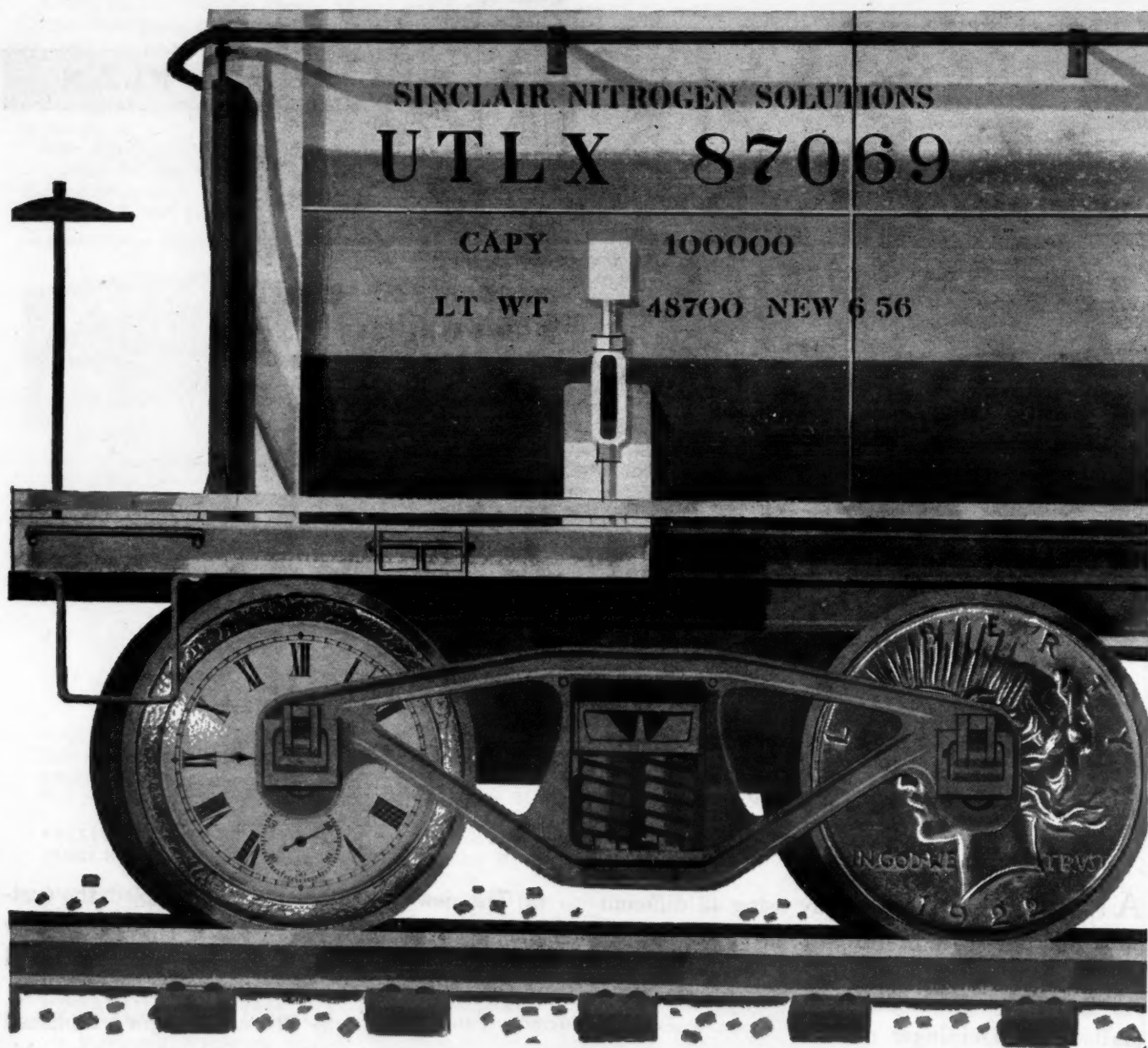
**Fumazone**, in capital letters, for soil fumigant. Filed July 26, 1956 by Dow Chemical Co., Midland, Mich. First use Feb. 20, 1956.

**One-Shot**, in capital letters, for insecticides. Filed Oct. 25, 1956 by Cotton Producers Assn., Inc., Atlanta. First use March 6, 1952.

**Warf**, in capital letters for rodenticide. Filed Jan. 14, 1957 by Diamond Black Leaf Co., Cleveland. First use Sept. 17, 1956.

**MGK**, in capital letters for pesticides, namely insect repellents, insecticides, rodenticides, disinfectants, germicides and stock dips. Filed Jan. 24, 1957 by McLaughlin-Gormley King Co., Minneapolis. First use or about Feb. 24, 1920.

**Planters Punch**, for fertilizers, soil conditioners, water conditioners and enzymes for improving plant growth, soil amendments, mineral soil additives. Filed Feb. 7, 1955 by Harold L. Pierce, d.b.a. Industrial & Scientific



## How Rapid Delivery of Sinclair Nitrogen Products CAN SAVE YOU TIME AND MONEY

Rapid-on-time-delivery to your plant is an important reason why you should order nitrogen supplies from Sinclair. It can make the difference between filling an order at a profit or losing a sale and customer good will.

A big, new nitrogen plant at Hammond, Indiana, is in the center of the nation's

rail and truck transportation network. Large storage facilities in this key location mean that your order can be filled for fast delivery when you need it.

For fast, low-cost delivery of nitrogen solutions, anhydrous ammonia and aqua ammonia call on Sinclair. Write or phone...

Dino, the Sinclair Dinosaur, says, "Fertilize for greater farm profits. That's what I tell 'em in the farm ads, too".



## SINCLAIR CHEMICALS, INC.

(Affiliate of Sinclair Refining Company)

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155 North Wacker Drive, Chicago 6, Illinois - Phone Financial 6-5900



fic Engineering Co., Pasadena, Cal.  
first use Jan. 13, 1954.

Gibrel, in capital letters, for chemi-  
al compound for promoting plant  
growth. Filed Nov. 23, 1956 by  
Merck & Co., Inc., Rahway, N.J.  
first use Nov. 7, 1956.

Ris-Van, hand lettered, for com-  
plete analysis, non-pressure, non-cor-  
rosive fertilizer in liquid form. Filed  
Dec. 3, 1956 by Ris-Van, Inc., Bel-  
mond, Iowa. First use Sept. 15, 1955.

Herco-Prills, in hand lettered capi-  
als, extended type, for prilled am-  
monium nitrate fertilizer. Filed Feb.  
3, 1957 by Hercules Powder Co.,  
Wilmington, Del. First use Jan. 23,  
1957.

### Canadian Agricultural Chemicals Assn. to Hear Minister of Agriculture

MONTREAL — Douglas Harkness,  
federal minister of agriculture, will  
address the annual conference of the  
Canadian Agricultural Chemicals  
Assn. at Mont Tremblant Lodge,  
Que., on Sept. 18, Merle Ward, con-  
ference chairman, has announced.

The association, representing basic  
producers, formulators and distribu-  
tors of pesticides in Canada, will  
close its three-day meeting, running  
from Sept. 16 to 18, with the minis-  
ter's address.

The proceedings will include a talk  
by Mme. Henri Vautelet, C.B.E., of  
Montreal, past national president of  
the Canadian Association of Con-  
sumers, and a review of bankers'  
credit policy in farming by Edward  
Brown, assistant general manager,  
the Toronto-Dominion Bank.

Business sessions will feature a re-  
view of current chemical tariffs by  
W. W. Buchanan, vice chairman of  
the Tariff Board, Ottawa; a sum-  
mary of research and development in  
soil sterilants by Dr. J. R. Hay, Fed-  
eral Department of Agriculture, Ot-  
tawa, and an examination of two new  
chemical products, gibberellic acid  
and miticides.

### Russell G. Hill Heads Soil Conservation Group

EAST LANSING, MICH. — Russell  
G. Hill, a restless worker for 20 years  
for soil conservation in Michigan, is  
the new president of the 7,000-mem-  
ber Soil Conservation Society of  
America. He was elected at the an-  
nual meeting at Monterey, Cal. Prof.  
Hill had served as first vice presi-  
dent of the national group for the  
past year and formerly had been sec-  
retary for five years.

The national society has 93 chap-  
ters and has been active in bringing  
about a greater interest in soil and  
water conservation throughout the  
nation. Mr. Hill succeeds J. S. Rus-  
sell, farm editor of the Des Moines  
(Iowa) Register Tribune as the presi-  
dent.

Mr. Hill has written numerous bul-  
letins and journal articles in the field  
of conservation. He also has helped  
organize and service the 70 soil con-  
servation districts throughout Michi-  
gan. He was made a fellow in the  
Soil Conservation Society of Amer-  
ica in 1953 and in 1954 he received  
the Nash Motor Corp. certificate of  
merit award for his contribution to  
soil and water conservation.

### INFORMATION CARD

CLEMSON, S.C.—Information  
Card 91, entitled "1957 Fall Planting  
Schedule for South Carolina," is now  
being distributed by the Clemson Ex-  
tension Service. It was prepared by  
H. A. Woodle, leader, Clemson agron-  
omy extension work. The card lists  
the recommended varieties, rate of  
seeding per acre, date of seeding,  
rate of fertilization at seeding and  
the per acre rate for topdressing  
crops to be planted this fall. The  
crops listed are alfalfa, oats, barley,  
wheat, rye, fescue and Ladino, annual  
ryegrass and crimson clover (for an-  
nual grazing), and rescue grass.

### California Chemical Employment Rises

SAN FRANCISCO—Chemical man-  
ufacturing employment in California  
pushed up to a new high during July,  
and reached a level about 2½% above  
July of 1956.

There were an estimated 39,400  
wage and salary workers manufactur-  
ing various types of chemicals during  
July of this year as compared with  
38,600 the year before. In June the  
figure was 39,100. The rise conforms  
to a pattern in operation in the state  
for several years.

The production worker segment of  
the industry also earned more money  
during the month, for a fractionally  
shorter work week. Average earn-  
ings rose from \$94.43 to \$98.84 be-  
tween the two Julys, and hourly earn-  
ings were up from \$2.26 to \$2.39 on  
the average. The work week dropped  
from 41.7 hours to 41.4, for the medi-  
an worker.

### Minnesota Group Hears Report on Soil Testing Program

ST. PAUL—About 30 members of  
the Minnesota Group, Middle West  
Soil Improvement Committee, heard  
a report of the University of Minne-  
sota's soil testing program at a ses-  
sion on the university's St. Paul  
Campus Sept. 10.

Dr. W. P. Martin, head of the uni-  
versity's soil department, and mem-  
bers of his staff talked about soil  
testing procedures. They said that one  
of the functions of the soil testing  
program was to serve as a link be-  
tween the farmer and university re-  
search results.

They discussed a recent statement  
of policy on the soil testing program.  
Under the program soil tests are  
made by the department of soils and  
fertility recommendations based on  
the tests are made by county agents.

The new policy statement says that

the county agent is the only official  
representative of the university land  
grant college in the county and will  
continue to make the fertilizer rec-  
ommendations based on the soil tests.  
However, in a modification of pre-  
vious procedure, soil test results and  
fertility recommendations will be  
made available to individuals and  
groups initiating the soil samples.

The group also discussed plans for  
a nitrogen conference to be held at  
the university next Feb. 20-22. M. W.  
Mawhinney, Smith-Douglass Co., Al-  
bert Lea, Minn., chairman of the  
group, presided.

### SOIL SAVERS

LINCOLN, NEB. — Fertilizer and  
lime are soil savers as well as yield  
boosters, according to M. D. Weldon,  
extension agronomist at the Univer-  
sity of Nebraska. Fields treated with  
fertilizer, lime and manure not only  
produce more crops per acre, but re-  
tain more inches of topsoil than do  
unfertilized fields, Mr. Weldon says.

## Average cash farm income of Successful Farming farmers in 1956 was \$10,630

*The best farmers have the best incomes ...  
and are the best buyers of fertilizers!*

In the US, the highest income farmers  
operate only 44% of the nation's farms, but  
earn 91% of the cash farm income. These  
top-bracket farmers are big businessmen  
with large capital, technical knowledge,  
advanced techniques and methods, better  
land—and take better care of their lands  
with commercial fertilizer.

In the top group, SUCCESSFUL FARMING  
concentrates the majority of its 1,300,000  
circulation. Last year, SUCCESSFUL FARMING  
farm subscribers averaged \$10,630 cash  
income from farming alone.

The SF farm operator families have

larger farms, averaging 365.9 acres... and  
eight in ten subscribers are on-farm. SF sells  
the largest fertilizer market most efficiently,  
at least cost.

No OTHER publication can match the  
influence of SUCCESSFUL FARMING with its  
audience. For more than a half century, SF  
has helped the best US farmers make better  
plans and better money... and today enjoys  
the confidence and respect of its readers,  
unmatched by any other medium addressed  
to farmers.

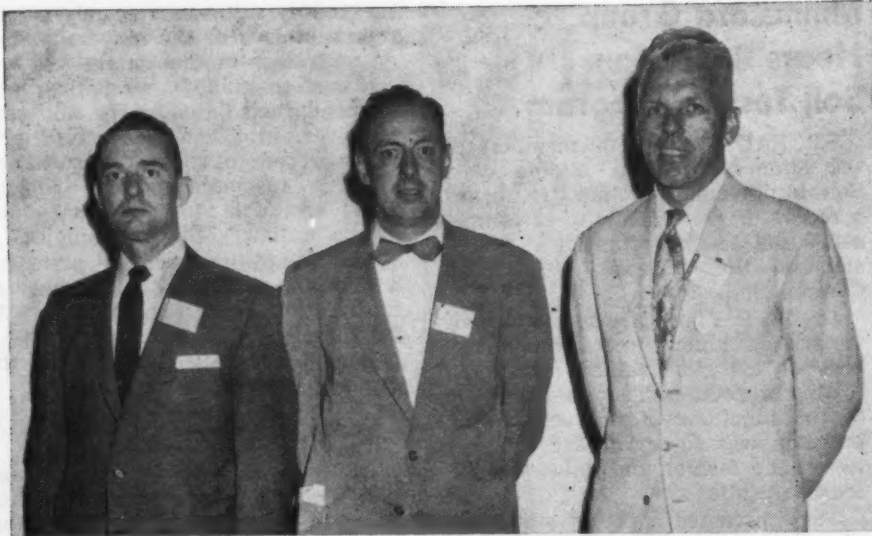
Ask any of your dealers about SUCCESSFUL  
FARMING's influence in their territory.

And ask the nearest SF office for full  
facts on the market and medium.



MEREDITH PUBLISHING COMPANY, Des Moines...  
with offices in New York, Chicago, Detroit, Philadelphia,  
Cleveland, Atlanta, San Francisco, and Los Angeles.





**HEAD COMMITTEE**—New officers of the National Joint Committee on Fertilizer Application are, from left to right, Dr. W. H. Garman, National Plant Food Institute, secretary; Dr. Oscar A. Lorenz, University of California, chairman, and Dr. B. A. Krantz, University of California, vice chairman; and in charge of program arrangements for the 1958 meeting.

### Oscar A. Lorenz Heads Committee on Fertilizer Application

STANFORD, CAL.—Dr. Oscar A. Lorenz was elected chairman of the National Joint Committee on Fertilizer Application at the 33rd annual meeting at Stanford University recently. He is vice chairman, vegetable crops department, University of California.

Named vice chairman was Dr. B. A. Krantz, extension agronomist, University of California, and Dr. W. H. Garman, National Plant Food Institute chief agronomist, was re-elected secretary of the committee. Dr. Krantz will be in charge of program developments for the 1958 meeting.

The meeting, held in cooperation with the American Society for Horticultural Science and the Western Soil

Science Society, attracted more than 400 representatives from the fertilizer industry and scientific societies.

The 1958 meeting will be held in cooperation with the American Society of Agronomy, Aug. 25-29, at the University of Wisconsin.

### USDA Plans New Research Facilities

WASHINGTON—Funds have been made available by the Congress to provide new federal research facilities in various areas of the country for work on problems of soil and water conservation, the U.S. Department of Agriculture reports.

The Congress has directed that new laboratories for soil and water conservation research be located at Oxford, Miss.; Watkinsville, Ga.; Phoenix, Ariz., and Morris, Minn.

## COMPLETE SOIL TESTS FOR THOSE PROBLEM SOILS

Acidity, calcium, magnesium, carbonates, phosphorus, potassium, nitrate nitrogen, sulfate sulfur, iron, aluminum, zinc, boron, manganese, sodium, molybdenum, copper, etc.

### The Markley Laboratories

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## FLEX-A-FOAM DUST MASKS

Dust protection your workers  
will welcome and wear  
in even the HOTTEST weather

★ Ideal for Hot Weather Filter's porous action absorbs and actually exhales body heat.

★ Flex-A-Foam's lightweight (only 1 ounce complete) makes it cool and comfortable to wear — not hot and cumbersome like old-fashioned respirators.

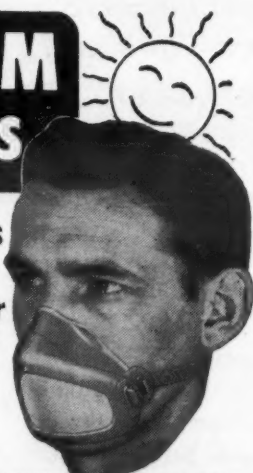
★ Flex-A-Foam is easier to breathe and talk through than an ordinary pocket handkerchief — does away with that stuffy, smothered feeling.

Your best Ounce of Protection  
against Irritating Dust

Sample only  
\$1.45  
postpaid  
(Industrial  
price only)

**FLEX-A-FOAM**  
DUST MASK

FLEXO PRODUCTS, INC. • Westlake, Ohio



### UNMATCHED ECONOMY

Flex-A-Foam is the lowest priced quality respirator on the market today.

Flex-A-Foam's washable filter outlasts throw-away type by more than 100 to 1.

Fewer filter replacements with Flex-A-Foam Dust Masks mean fewer lost production hours.

## Virginia-Carolina Chemical Corp. Net Sales Show Increase

RICHMOND, VA.—Net sales of Virginia-Carolina Chemical Corp. for the fiscal year ended last June 30 totaled \$70,524,467, compared with \$70,195,211 for the previous fiscal year, according to the firm's annual report.

Net earnings from operations, after taxes, in 1956-57 were \$1,784,885, an increase of 17% over income of \$1,523,327 after taxes for fiscal 1956. Net income, after taxes and special charges, in 1956-57 totaled \$946,380, compared with \$1,379,016 for the previous fiscal year.

William H. Wilson, president of the firm, said in a message to stockholders that the decline in earnings was due entirely to special charges of a non-operating and non-recurring nature.

"These charges, totaling \$838,505, included the write-off of certain capital assets no longer of value but carried on the books, the adjustment of inventory values to a realistic amount and the contractual settlement with former company officials," Mr. Wilson said.

In February the firm reached an agreement with Joseph A. Howell, former president, involving Mr. Howell's employment contract with the company.

"The fertilizer division continues as the main strength of your company because of its scope, its basic soundness and the large revenues which it generates," Mr. Wilson said in his statement to stockholders.

"A major objective of your management is to place this division on a more profitable basis for long-term growth. Already steps are being taken to improve marketing methods, distribution and organizational control. Profitable expansion into selected areas will be undertaken as rapidly as earnings will permit."

During the fiscal year three new fertilizer plants in Iowa, Indiana and Ohio were put into operation, and granulating units were completed at three other plant sites. Last June 30 three plants in Augusta, Ga., Atlanta, Ga. and Wadesboro, N.C. were closed. A new fertilizer pilot plant went into operation at Richmond, Va.

The annual stockholders' meeting of the corporation will be held at the home office in Richmond Sept. 27.

## Locust Situation in Middle East Shapes Up As Worst in 25 Years

ROME, ITALY—The 20-nation Desert Locust Control Committee of the Food and Agricultural Organization says the desert locust situation could become the worst in 25 years.

The committee says four areas already are experiencing heavy infestations and that a number of other countries should be prepared to meet serious locust invasions in the coming months.

In Libya, and particularly in Tunisia, large numbers of swarms have over-run the country causing heavy crop damage. In one part of Equatorial Africa and the Sudan, many swarms are present and heavy summer breeding is expected. In central and southern Arabia, widespread breeding is in progress and swarms are expected to escape to surrounding countries.

The senior FAO locust officer, Abed M. Mistikawy said that "the situation this year most resembles that in 1929-30, which is considered the most serious invasion year in modern history." He said escaping swarms of locusts from Saudi Arabia were most likely to migrate to the west or the southwest, but some may migrate eastward to India and Pakistan.



A. B. Pettit

**SAFETY SPEAKER**—A. B. Pettit, director of industrial health and safety, W. R. Grace & Co., New York, will speak on "Observations on Latin American Safety" at the Oct. 22 session of the annual meeting of the Fertilizer Section, National Safety Congress, in Chicago. The meeting will be held Oct. 21-22 at the LaSalle Hotel.

## Iowa Agronomist Advises Fall Application

AMES, IOWA—Farmers planning to plow 1958 corn ground now should consider turning under needed phosphorus and potassium fertilizers, Joe Stritzel, Iowa State College agronomist, said here Sept. 11.

He said that plowing down these nutrients this fall—in amounts needed above quantities supplied by hill or row fertilizer at planting time—is preferable to disking them into the surface of the plowed ground in the spring.

While phosphorus and potassium may be applied now, Mr. Stritzel said that nitrogen applications should be held up until soil temperatures are down to 50° or less. That point usually is reached about Oct. 25 in central Iowa—a week earlier in northern counties—and a week later in the southern part of the state.

## John F. Neace Named Crop Care Vice President

SACRAMENTO—John F. Neace, formerly manager for Marsh Aviation, Inc., Phoenix, has been appointed vice president of Crop Care, Inc., a California corporation with headquarters in Sacramento. He has also been named general manager of Crop Care, Ltd., an Australian subsidiary, according to Charles H. Branstetter, Jr., president of the agricultural aviation firm. Mr. Branstetter also announced the appointment of Harry L. North as chief pilot of the subsidiary company.

Mr. Neace and Mr. North have been active in western agricultural aviation for the past decade during which the dusting and spraying of crops by plane have increased nearly 2,000%, Mr. Branstetter said.

Mr. Neace is a vice president of the National Aviation Trades Assn. and a co-organizer of the Arizona Flying Farmers. He was appointed by the governor to the Arizona State Board of Pest Control Applicators, and in 1955 he was appointed to President Eisenhower's "Inter Departmental Committee for Manpower in Aviation." He is also a charter member of the Agricultural Aircraft Operators Council of the 11 western states.

Mr. North, a veteran of the U.S. Army Transport Command, and an active agricultural aircraft pilot since 1947, is a former territory manager and pilot for Marsh Aviation.



## Rural Shows, Fairs Offer Selling Opportunities

Newspaper accounts recently have carried news articles stating that thousands of persons, many of them farm folks, are attending such rural events as plowing contests and fairs.

It can easily be seen that if farmers can see a good show, they will come out in droves.

Plowing matches, as well as other farm events, such as outdoor and indoor fairs, and field days, clearly indicate that farmers are interested in such things and will attend. From a sales promotional angle, this is important news to dealers who are looking for ways to attract more farm trade to their towns and stores.

A dealer need not offer a farmer a "girlie" show, a carnival, or similar entertainment to get him to town. Just offer him a plowing match or a crop display contest and he will turn out for it with zest and lots of enthusiasm. Somehow or other, the farmer never seems to tire of coming to farm shows.

Of course, the dealer needs some entertainment at farm shows, for farmers mix fun and business. But displays from a sales and educational standpoint should not be slighted. Farmers are hungry for them. Many dealers make no effort to sell at the county fair booth. They stress educational aspects. The selling is done in an indirect manner.

"Don't sell the farmer short on education urge," one dealer says. "The

farmer has radio and television and many farm magazines at his disposal. The more he reads and hears about better farming the more curious he is and determined to gain more knowledge to help him farm more profitably. Fall and winter are excellent times to start such educational programs. That's when farmers have more time for such things."

Here's what was done at one plowing contest, to attract crowds. A state extension department kitchen trailer with demonstrations and lectures by home and kitchen experts was on hand. (For a local show the local extension division may help the dealer attract women. If farm women attend a show, the men also will turn out.)

There was also a parade called "100 Years of Plowing" which showed a yoke of oxen and wooden mole board plow, as well as modern tractors pulling plows. Dealers may not have space for a plow parade, but perhaps they could have a display entitled "50 Years of Crop Yield Improvement."

The dealer may also use displays of related supplies at such shows, but educational displays are sure to arouse the curiosity and pride of farmers and whet their desire to do a better farming job.

**Dealers should not be afraid to schedule a lot of short speeches on plant foods and soil improvement.**

Comfortable seats for the farmers will make listening to a number of half hour speeches, with question periods afterward, quite pleasant. Speeches should not follow one after the other. An interval between each is best. It's a good idea to let farmers wander around the exhibit area for a five to 10-minute period, then resume a movie and lecture program again.

Many farm dealers, especially those selling seeds and fertilizers, own slide projectors which show colored slides. These are very attractive and have much appeal for farmers. A complete slide projector unit can be purchased for less than \$200. Dealers will find a great deal of use for it.

If the dealer has a movie camera he may wish to break up his lecture program a little by showing 10 or 15 minutes of "shots" taken throughout the territory, involving customer interests. This will help to pep up a show.

When preparing for a show, the wise dealer will ask his newspaper publisher for suggestions, as well as manufacturers' salesmen. The county agent, extension workers, the 4-H and FFA and other farm groups may like to get into the show in some way. They should be asked to participate. Their participation, their suggestions can be vital factors in boosting a show and making it a success in many ways.



By **RAYMOND ROSSON**

County Agent, Washington County, Tenn.

It's almost time for Old Sol to "cross the wire". It's an old expression for the equinox and it reminds us that fall is here. A lot of us would vote for extending summer time regardless of what winter had to offer, but on the other side of the ledger, there are a lot of us ready to give fall a good vote. With it comes the harvest moon, the time to reap what we've sown and gather what we've planted. The days are just about the right length and so are the nights.

*Time seems to be balanced, just as agriculture and industry should be balanced. Financial returns to agriculture should be enough to make farming a 100% occupation, not a part time job.*

There is a lot being said about "part time farming." We all know, of course, why a farmer gets a job in industry. He needs to make some more money, to educate his children, etc., and many go in that direction.

*We just can't say, "There are too many farmers or too many of anything else."*

Here's my suggestion: Get in your car and start across the country in any direction. Look toward the mountains, the lakes, the forests, the green pastures and after a good rain watch the vegetation with its power to come back.

*We drive on. We know people are growing in their thinking, "to look for the answers together." No one person has the answer to anything and the answer that is correct today may be obsolete tomorrow.*

No matter what road or street we drive over, what we see belongs part and parcel to our American way of life. It represents candidly what we are, the best and the worst of it.

### SUPPLEMENTAL IRRIGATION

COLUMBIA, MO. — Supplemental irrigation has increased corn yields by 55 bu. an acre during each of the past three years in University of Missouri experimental work, notes George Smith, a member of the soils department.



"It's not much of a place—just a hole in the wall."

### SHOP TALK

## OVER THE COUNTER

By **Emmet J. Hoffman**  
Croplife Marketing Editor

The business of selling is not a stationary activity. It changes, it moves ahead, it is affected by new products, by new developments, and by new techniques.

Here are some developments reported by merchandising groups, trade journals and retail businesses which emphasize the ever-changing aspect of selling:

During the next 10 years, it is expected that women workers will account for at least half of the expected increase in the labor force.

The consumer price index shows that in the past year prices have been inflated 3.6%. If dollar sales are up 2% over last year, the store has shown an actual decline of 1.6% in physical volume.

A tighter profit squeeze may be ahead. Sales appear to be headed higher but the profit margin will be lower.

If the cost of merchandise to the retailer has increased (in some areas this has been as much as 5%), many merchants who have absorbed the increases instead of passing them on will end up the year without a profit.

If customers seem to resist a price increase and the volume remains static, the retailer must resort to: (1) Stepped up promotion of all merchandise and especially the higher profit lines, and (2) Increased output by upgrading the skill and education of employees, installing labor-saving and time-saving equipment and devices, and developing more efficient management practices and procedures.

In a 68-city survey by Selling Research of 900 grocery stores, it was found that one out of three was willing to drop trading stamps if competing stores would agree to do the

same. Incidentally, supermarket operating expenses are up again this year for the ninth successive year.

The money makers this year, as in other years, are the retailers who combine merchandising and management ability.

One wholesaler saves his retail customers hundreds of hours of work by marking the suggested retail price on each case of merchandise shipped.

So you think you have competition? In 1946 there were only nine major brands of cigarettes from which customers could choose. Today there are 34 major brands. There are 50 more brands of instant coffee on the market today than there were a year ago.

**Improved, modernized display fixtures can increase the effective display area in stores as much as 25% or more compared with older equipment.**

It is estimated that in the drug field, more than 25% of the business is done in stores operating on a self-selection basis.

And a reminder to new clerks

might be: By working faithfully eight hours a day you may eventually get to be boss and work 12 hours a day.

### Improved Collections

Many retailers have found that their collections improved by including on their monthly statements the insignia of the local credit association. Some customers, in choosing which of several bills to pay first, are inclined to pay the one which shows affiliation with the local credit association.

### Chemicals Promising For Use on Soybeans, Missouri Researcher Says

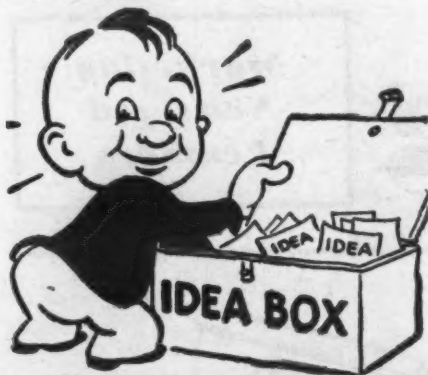
COLUMBIA, MO.—Randox and sodium pentachlorophenate have shown promise as weed controlling agents for soybeans in Missouri tests the past two years, according to Elroy J. Peters, U.S. Department of Agriculture research agronomist stationed at the University of Missouri.

During the annual Soils and Crops Field Days at the University's South Farms, he explained current work with chemicals in control of weeds in soybeans. In addition to the two promising chemicals, several others are under test including dinitro, alanap, chloro, IPC, EPTC, CDEA, and neburon.

Mr. Peters told the farmers attending the event that the use of herbicides on soybeans had resulted in increased yield and reduced weed population in experiments conducted in the past few years. However, the problem has been to find a chemical that will give good results in weed control and still not harm the soybean plant too much in the process.

At the present time, the University's field crops department makes no recommendation for chemical weed control in soybeans.





## What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

### No. 5799—Marking Letters, Numbers

A new line of self-adhering numbers, letters and signs designed for marking off sections and bins in warehouses and other storage tanks for inspections and for positive identification of areas, overhead hoists and material handling equipment has been announced by the Westline Products division of the Western Lithograph Co. Numbers and letters are available in many size ranges and bold color combinations may be applied in seconds by simple pressure for permanent identification, company officials said. Samples and a catalog may be secured by checking No. 5799 on the coupon and mailing it to this publication.

### No. 6630—Water Soluble Film

A new water soluble, transparent packaging material said to be suitable for fertilizers, insecticides and other water dispersible products has been developed by the Reynolds Metals Co. Called "Reynolon" by the company, the new material is a polyvinyl alcohol, water soluble film. It is claimed to provide product protection during shipping and storage and will protect workers against harmful products. High speed bag forming and

heat sealing equipment for the film is available, according to Reynolds officials. Secure details by checking No. 6630 on the coupon and mailing it to Croplife.

### No. 6631—Fertilizer Tanks

A brochure and price list for standard sized aluminum fertilizer tanks made by the Broyhill Co. are being offered. The brochure lists specifications for its line of Tori-Tanks and outlines construction and welding details. Various capacity tanks, ranging from 85 to 1,000 gal., are manufactured by the company. The tanks are designed for storing, transporting and applying liquid fertilizers. The company also manufactures both horizontal and vertical steel tanks and rubber lined tanks. Secure the literature by checking No. 6631 on the coupon and sending it to Croplife.

### No. 6629—Range Fertilization Booklet

A new booklet, "Range Fertilization," has been published by the California Fertilizer Assn. It contains information for livestock operators and can be secured from western fertilizer suppliers or through Croplife. Contents include sections on earlier grazing possibilities, increased palatability,

more feed from the same acres, cutting labor costs, improved forage quality, making irrigation pay, fertilizer carry-over, and how much, when and which to fertilize. Check No. 6629 on the coupon and mail it to Croplife to secure a copy of the booklet.

### Also Available

The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

### No. 6621—Skin Protectant

A new skin protective coating, called by the trade name, Ply No. 9 Gel, has been announced by the Milburn Co. It is claimed to be particularly useful to workers in fertilizer and farm chemical processing work. The product is soluble in water but is impervious to phenols, hexanes, coal tars, dry and oil-based insecticides, weed killers and crop dusts, to poison oak and poison ivy and to most organic solvents. To secure details check No. 6621 on the coupon and mail it to Croplife.

### No. 6625—Surface Active Agents

A new "J" series has been added to the Poly-Tergent line of nonionic surface active agents introduced earlier this year by the industrial chemicals division of the Olin Mathieson Chemical Corp. Officials state that "an outstanding characteristic of the new series is the wide temperature range over which the products are effective." The range extends from 0 to 100° C. (-32 to 212 degrees F.), it is claimed. One member of the series, Poly-Tergent J-500, can be used at the boiling point of water without serious loss of its surfactant properties. All members of the series are said to be good wetters, detergents and dispersants. For details check No. 6625 on the coupon and mail it.

### No. 6628—Pesticide Carrier

Zeolox 7A, the newest of the Zeolox products manufactured by the J. M. Huber Corp., is in commercial use as a pesticide carrier for concentrates and wettable powders. Advantages claimed are reduced production costs, cleaner-running mills, with fewer shut-downs and finer grinds. The company's announcement continues: "Zeolox 7A also provides quality improvement: Wettable powders such as DDT for WHO and GSA specifications yield higher suspensions and higher re-suspensions after tropical storage. Surfactant levels can be minimized for additional economy, and the efficiency of the product al-

lows use of substantial amounts of low-cost diluents such as kaolin clays." The product is a neutral material, chemically a hydrated silica and is virtually non-abrasive. The average particle diameter is 0.02 microns. The product is packed in 50-lb. multi-wall moisture-barrier valve bags and is available in carload and truckload quantities. Literature about the product may be secured by checking No. 6628 on the coupon and mailing it to Croplife.

### No. 6627—Film

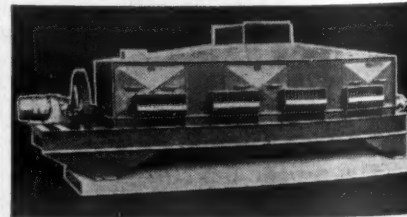
A 20-minute, 16 mm. sound movie has been produced by the Terra-Lite Division of Zonolite Co. for showing to firms marketing agricultural chemicals. Titled, "Vermiculite, Carrier for Agricultural Chemicals," the film details properties of vermiculite as a carrier for insecticides, pesticides, and weed killers. Production of vermiculite at company mines in South Carolina and Montana, and ag-chemical mixing techniques of the lightweight mineral are shown. Information about free showings may be secured by checking No. 6627 on the coupon and mailing it to Croplife.

### No. 5769—Portable Conveyors

The Chantland Manufacturing Co. announces improvements in three lines of its Elton portable conveyors. The conveyors are now equipped with new lifts which allow the receiving end to be adjustable from minimum height to 3 ft., 9 in. above the ground. Company officials say that this feature is ideal for loading or unloading trucks or freight cars or for use in conveyor lines. It also allows horizontal conveying at the desired height. Descriptive literature on this, and other features, is available. Check No. 5769 on the coupon and mail it to this publication.

### No. 5754—Bulletin On Dryers

The Anderson 72-tube rotary steam dryer for adjusting moisture content of chemicals, minerals and other non-sticky granular materials is described in a new bulletin No. 457 published by the V. D. Anderson Co. The four-page bulletin also describes in detail how material flows through the dryer. A cutaway illustration pictorially shows the unique steam flow through the steam head and tube reel. Spec-



fications including shipping weights, dimensions and accessory equipment also are listed, as well as methods for stacking the units two and three high, to conserve floor space while increasing processing capacity. Secure the bulletin by checking No. 5754 on the coupon.

### No. 5797—Farm Canvassing Booklet

Don Ross, field merchandising manager for Successful Farming magazine, has written a booklet, "The Do's and Don'ts of Farm Canvassing," which provides hints on the art of selling successfully to the productive farm market. A copy is available without charge. Check No. 5797 on the coupon and mail it to this publication.

### No. 6623—Multi-Purpose Valves

The RegO Division of the Bastian-Blessing Co. has announced two new multi-purpose valves for use on anhydrous ammonia field storage and nurse tanks. Company officials said that "design features of the new

Send me information on the items marked:

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| <input type="checkbox"/> No. 5774—Catalog           | <input type="checkbox"/> No. 6626—Hydrocarbon         |
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| <input type="checkbox"/> No. 6620—Tank Brochure     | <input type="checkbox"/> No. 6629—Range Fertilization |
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| <input type="checkbox"/> No. 6622—Insect Control    | <input type="checkbox"/> No. 6631—Fertilizer Tanks    |

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### No. 5774—Equipment Catalog

The Burrows Equipment Co. has published its 1957-58 equipment catalog which describes, illustrates and prices some 1,000 different items of equipment used in the handling, storing, processing and marketing of grain, seed and related materials. The 200-page catalog is available without charge. Check No. 5774 on the coupon and mail it to this publication.

### No. 5770—Weighing Machine

A new automatic net weighing machine, designed for use in restricted overhead clearance areas, has been announced by the Exact Weight Scale Co. The machine consists of an even balance precision industrial scale, an air operated slide valve, a controller and remote control station. The remote control station permits the machine to be operated as a fully automatic or semi-automatic. The weight



bucket (on the machine illustrated) is capable of holding 1,500 cu. in. of product. Various sizes of weigh hoppers are available. Secure details by checking No. 5770 on the coupon and mailing it to this publication.

### No. 6620—Tank Brochure

The Chicago Steel Tank Co. has prepared a 32-page color brochure describing its operations. The booklet is calculated to be of special interest to design engineering and other equipment buying persons in the process industries. Described in the booklet is all major fabricating equipment, capacities for thickness, length and width, tonnage, etc. Complete testing and shipping facilities are also fully explained. Check No. 6620 on the coupon and mail it to Croplife to receive the brochure.

### No. 6626—Hydrocarbon Booklet

A new, illustrated, 20-page booklet which describes the properties and uses of five important chlorinated hydrocarbons has been published by the Stauffer Chemical Co. The publication contains complete technical data, e.g., typical analyses, solubilities, flash point and density tables and graphs, as well as other pertinent physical and chemical information, for perchlorethylene, trichlorethylene, carbon tetrachloride, methylene chlo-

ride and chloroform. One full section of the booklet sets forth optimum handling procedures and methods of minimizing waste. Check No. 6626 on the coupon and mail it to secure a copy without charge.

### No. 6622—Insect Control

A chart on home insect control has been prepared by the Real-Kill Co., division of the Cook Chemical Co. The chart is available without charge. Nineteen insects ordinarily found in the home are listed, together with recommended methods of control. The chart is suitable for wall or desk top use. Check No. 6622 on the coupon and mail it to secure the chart.

### No. 6624—Peanut Weed Control Movie

A new 5-min., 16 mm., full-color sound movie, showing how to control weeds in peanut rows with Crag

Sesone, formerly called Crag Herbicide-1, has been released by Carbide & Carbon Chemicals Co., a division of Union Carbide & Carbon Corp. The film shows how to prepare the weed control spray and calibrate the sprayer. Information on how to secure the movie may be secured by checking No. 6624 on the coupon and mailing it to Croplife.

### MORE PROFITS

ST. PAUL—Profits from second year corn can be increased when fields are fertilized according to soil tests, according to two University of Minnesota specialists, Hal Routh, farm extension specialist, and Charles Simkins, extension soils specialist. The two extension men say that fertilized second year corn yielded 30 more bushels per acre than did unfertilized corn. On first year corn, yield increases averaged 20 bu. per acre on fertilized fields, compared to unfertilized fields.

### Growth in Fertilizer Use Boosts Mexico's Economy

EL PASO, TEXAS—Wider use of fertilizer is not only improving Mexico's crop production, but it is also helping every phase of the nation's economy, according to the monthly bulletin *Review of the Economic Situation in Mexico*.

Wider use of fertilizer is having a tremendous effect upon agriculture, and production is steadily rising. To meet the growing demand for fertilizer, five new plants are now under construction for making sulphuric acid, ammonium nitrate and superphosphate. When completed, they are expected to double the country's output of fertilizer.

Mexico has unlimited quantities of sulphur, and despite soaring demands, the bulletin states that further imports may not be needed in the future.

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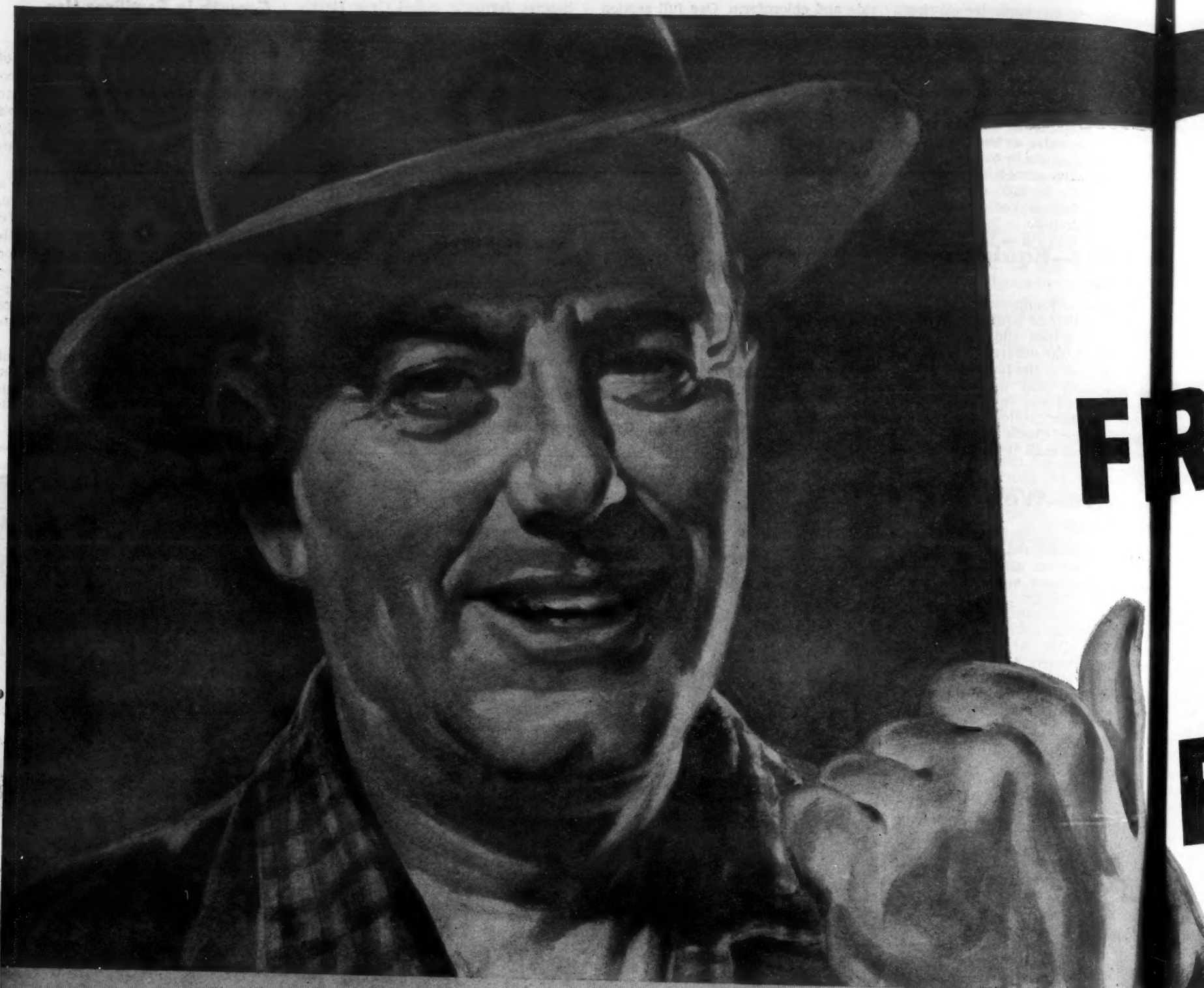
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**NITROGEN DIVISION, ALLIED CHEMICAL • SUPPLIES**

# **TO HELP YOU SELL MIXED FERTILIZERS**

**Nitrogen Division Continues Powerful Advertising**



# THE BEST FERTILIZERS ARE MIXED FERTILIZERS

## PPRS OF NITROGEN TO THE FERTILIZER INDUSTRY

The poster pictured above is the opening gun in the big, powerful 1957-58 advertising campaign now being conducted by Nitrogen Division, Allied Chemical, to help you sell mixed fertilizers.

Big posters similar to this in full color are now appearing on hundreds of billboards in leading farming areas. These posters urge farmers to buy their plant foods in the form of mixed fertilizers. **THE BEST FERTILIZERS ARE MIXED FERTILIZERS** is the theme of this campaign.

Mixed fertilizers offer many advantages to the farmer. They save time, labor and money and pay big profits on the investment. They overcome the difficulty of using separate materials and lessen the hazard of mis-use. Mixed fertilizers are practical interpretations of official recommendations. The right mixed fertilizer is like a professional prescription to fit the exact needs of the crop and the soil.

Mixed fertilizers are manufactured in many different analyses and combinations of major plant foods plus secondary plant foods and minor elements. Various carriers of plant foods are used to adapt fertilizers to particular needs.

All of this represents an enormous savings to the farmer in work, worry and expense.

Mixed fertilizers are farm efficiency in a bag. They help the farmer to make one acre do the work of two or more. They enable him to do the entire job of plant feeding with one trip across his field. Supplemental individual plant foods are needed under certain conditions but for most crops and soils *the best fertilizers are mixed fertilizers*.

Nitrogen Division, Allied Chemical, produces and sells nitrogen. But Nitrogen Division has always aggressively supported the importance of using nitrogen in a balanced fertilizer program. We will keep you posted on our continuing efforts to help you sell mixed fertilizers as this campaign unfolds. In the meantime, we will appreciate your comments and suggestions.

### NITROGEN DIVISION

Allied Chemical & Dye Corporation  
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Doing Business With

## Oscar & Pat



"Just think," Pat McGillicuddy told Tillie Mason, the plump ulcerish bookkeeper, "this afternoon Oscar will come home from his first convention. Man, what a time I had convincing him to go!"

"It was only when you said that the manufacturer would pay all expenses and was giving away two tons of fertilizer as an attendance prize, that he consented to go," Tillie smiled. "Do you think he will be a different man—more liberal, I mean?"

Pat McGillicuddy grinned. "You mean, will the people who attended the convention be different? Seriously, I do hope Oscar learns a lot. A trip like this away from his discounts, will do him good."

"I think he started getting interested in going to that convention when we mentioned that the Iowa Germanic Turnverein was holding a meeting in Des Moines, too," Tillie said, "and that maybe he could get into some good games of schafskopf with them evenings when the convention was over at the other hotel."

Pat smiled. "Yes, I think that had something to do with it. And I wrote the Blue & White fertilizer representative that I wanted Oscar put up at the hotel where the Germanic society was meeting. I hope he took care of it."

At this moment there was a hiss of air brakes. "Oh, there's the Des Moines bus now," Tillie said. "Let's get busy so Oscar can't criticize us."

Both Pat and Tillie busied themselves at their desks. "Remember," Pat said, "I collected 90% of the bills Oscar left me with."

"Yes," Tillie chuckled, "and you didn't buy a thing for two days and you came to work at 8 a.m. every day."

"Oscar should be so happy," Pat cooed.

A shadow fell on the door, but it was only Oscar, carrying a 20-year old valise with wide leather straps, a family relic. His face was wrapped in a scowl. He said nothing and walked to his desk, set down the valise and scanned the top of the desk quickly.

"Hello, Oscar," said Tillie. "Have a good time at the convention?"

"I did not!" snapped Oscar. "Ach, it was a waste of time. I wish I had stayed home."

"We did as you said," Pat said softly. "I collected bills, didn't buy a thing and came to work early every day, didn't I, Tillie?"

The plump bookkeeper nodded.

Oscar whirled to Pat. "You knew this would happen. You—you fixed it,

so I would get mixed up with those, those Irishers."

"What do you mean, Oscar?"

Oscar's face was almost purple. "You told me I could get a room where the Germanic society was meeting."

"The Blue & White salesman said he thought he could get one for you there."

"Ach, he didn't. When I registered, he sent me to the Reginald Hotel. And you know who was there?"

Pat looked surprised. "No, I haven't the slightest idea."

"The Irishers were there!" snapped Oscar. "The Killarney Singing Society. And all the time boys walking around the lobby 'paging Mr. Shaughnessy,' 'paging Shamus O'Brien,' 'paging Cornelius Corcoran.' Irishers! I never knew there was so many in the world. Laughing, singing, slapping people on the back. Ach, I was sick—up to here." And Oscar ran a chubby finger under his chin.

"Then you didn't get a room at the German Hotel?"

"Ach, they said it was full!" Oscar snapped. "I could not sleep at the Reginald. All night long some crazy fools running around in the corridor singing 'My Wild Irish Rose,' 'Mother Machree,' 'Rose of Killarney,' and lots of other Irish songs. I checked out at 3 in the morning."

"Where did you go?"

"To the YMCA. There I could sleep!"

"And how about the convention?"

"Ach, that stuff. They are supposed to be there at nine and they don't start until 10:30. How they waste time. And fellows always getting up and going in and out and nobody can hear nobody talk. And all about more sellink, sellink."

"Oh," Pat brightened.

"I could stand it so long," Oscar snapped, "then I got up and toldt them a piece of my mind. I asked them how many didn't have a cent of debt at all. Not one raised a hand. Then I raised my hand and said I didn't owe a nickel to anybody and I got that way by cutting costs. I toldt them people spendt too much money foolishly, put on too many sales, advertise too much. And then what do you think somebody said?"

"What did he say?"

Oscar flushed again. "Somebody yelled 'Sid down! Sid down!' And I yelled back: 'That's what you should do more than running aroundt tryin' to sell fertilizer to farmers that can't pay for 120 days.' I told them a thing or two."

"I'll bet you did," Pat said dryly.

"And when that salesman from the Blue & White company comes, you tell him we don't buy from him any-

more," Oscar snapped. "He got me into that nest of Irishers when I thought I could get in with the Turnverein. If you buy from him, you can buy me out, too—for cash—if you got it."

And with that Oscar lifted up his valise and stalked out of the room, apparently on his way home.

"It's only 3 p.m." Tillie gasped. "Oscar never went home so early before. He must really be mad!"

Pat sighed. "He's like the Rock of Gibraltar—you can't change him, I guess. Maybe he's better off just sitting in that chair. Tillie, our experiment in the liberalization of Oscar was a complete flop."

Tillie nodded sadly. "Yes, you've gotta see it, to believe it," she said.

### Pre-Emergence Spraying Effective In Minnesota Tests

WASECA, MINN.—Pre-emergence "band" spraying on corn controlled weeds well enough to eliminate one cultivation in experiments this year at the University of Minnesota's Southern School and Experiment Station here. That finding was reported by John Thompson, station agronomist.

The chemical used in these tests was a mixture of Radox and  $\frac{1}{2}$  lb. of 2,4-D ester per acre. The researchers tried Radox at rates of 4, 5 and 6 lb. per acre. In general, the heavier applications gave better control.

Mr. Thompson and University agronomists also tried broadcasting the spray over the entire field, a few days after the corn was planted. Results were equally good with that system, but band spraying was cheaper.

### Fertilizer Proves Value In Wisconsin Tests

MADISON, WIS.—"It costs too much to farm the land these days unless you use fertilizer," reports Carl Nindorf, who farms near Montello, Wis. Fertilized alfalfa on the Nindorf farm yielded 5,400 lb. of dry weight forage per acre on the first cutting this year, compared to only 2,375 lb. from untreated fields. He top-dressed the alfalfa with 350 lb. of a phosphate-potash fertilizer, to which boron was added.

Mr. Nindorf was among farmers participating in fertilizer demonstrations on pasture, hay and small grains sponsored by University of Wisconsin soils specialist and county agents.

Pasture yields were boosted by 2,700 lb. per acre in the first cutting on the Arthur Manthey farm near Westfield, Wis., reports C. J. Chapman, University of Wisconsin soils specialist. He used 500 lb. of a nitrogen-phosphate-potash fertilizer per acre.

Fertilized small grain yields averaged more than 60 bu. per acre compared to only 7.2 bu. on a check plot on the William Bartlett farm in Marquette County. The plots were set up in 1956 when alfalfa was seeded on light, sandy loam soil and nitrogen, phosphate and potash were added.

Mr. Chapman reports that alfalfa getting a double rate application per acre of 0-20-20 and 0-10-30 will make two and one half tons per acre, compared to only one ton on unfertilized plots.

## Farm Chemicals Increase Store Traffic, Income

The Globe Seed & Feed Co., Caldwell, Idaho, emphasizes fertilizers, insecticides and herbicides in its selling program. To complete the farm chemical line, the firm also handles lawn supplies, animal health remedies and sells a complete line of small packaged goods.

Bill Hamby, manager, who has been with the firm 10 years, says: "I find a well-planned stock of farm chemical items can be a big help to the business. By handling them in small containers, the profit is higher. They also increase the store traffic; they enable use to make customers of many town people and small farmers and in selling our seed and feed we can often sell the farmer his insecticides and fertilizer."

Mr. Hamby puts his 10 years of experience in the Snake River Valley to good use when a customer needs help. A farmer may come in to inquire about fertilizing a grain field and wants to know what is needed.

Instead of reading the labels or telling the farmer what is recommended for the area, Mr. Hamby can tell him about a neighbor who had had the same problem. By applying nitrogen on a certain field, the man had got a big increase in yield. Mr. Hamby knows the field, the amount of fertilizer used and how it had been applied. He then asks the customer if he would like to see the other farmer.

The customer usually says no, and that Mr. Hamby's word is good enough for him. A sizeable purchase usually follows.

"A store owner or manager who overlooks the growing number of suburban farmers is neglecting some easy profit," says Mr. Hamby.

By having a sizeable stock of such goods, Mr. Hamby makes many sales in connection with feed and seed.

"Don't let people forget you're in business," he points out. "Get them into the store. If that first sale amounts to only 25¢, it may mean many dollars in profit later."

"Medium sized operators and the smaller customers may not buy in great volume but enough of them can make your business a success," says Mr. Hamby.

### Illinois Soil Treatment, Rotation Trials Reported

URBANA, ILL.—Results of experiments with rotations and soil treatments during the past 11 years were reported by A. L. Lang, University of Illinois agronomist, at a summer field day at the university's agronomy farm here. Top yields have come from a combination of a 4-year rotation and a complete plant food treatment, Mr. Lang said.

With only a 2-year rotation corn yields have averaged 50 bu. an acre. With a 4-year rotation plus lime, potash, phosphate and nitrogen treatment, yields have averaged 90 bu. Soybean yields ranged from 19 to 29 bu. an acre under these conditions.

### Big Yields Pay

COLUMBIA, MO.—Corn growing costs averaged only 58¢ bu. when yields averaged 80 bu. per acre, but costs jumped to 84¢ bu. when yields averaged only 35 bu., according to University of Missouri agricultural economists, soils men and crops specialists. "Profits averaged 67¢ bu. on the 80 bu. yields, with corn selling at \$1.25," says Gordon Nance, of the Missouri agricultural economics staff. "But profits were only 41¢ from the 35 bu. per acre yields. Thus the farmer with the higher yield was actually getting 26¢ more per bushel for his corn than the one growing only 35 bu. per acre."

## RINGING THE CASH REGISTER

Sales were stepped up considerably by one retailer who tried the following successful promotion—at a total cost of \$195. First, he picked 500 homes in his trade area. Next, he hired an amateur camera enthusiast to take a picture of each home and record the address carefully. The dealer furnished the photographer with 500 government postcards (\$10) and the photographer pasted one print of each home and one of the store (each print was about one inch square) on a card, along with this printed message (\$35 for printing): "Present this card at Scott's for a free 4 by 5-in. enlargement of your home exactly as it is printed here." By actual count, 440 of the 500 home owners showed up to claim pictures. The cost of all photos and addressing them was \$150. The dealer instructed his employees not to solicit business in connection with the pictures but to let "nature take its course." Sales, nevertheless, showed a sizable increase during the course of the promotion.

### Home Photo Promotion





## FARM SERVICE DATA

### Extension Station Reports

An Indiana agronomist reports that low-yielding, neglected permanent pastures can be brought back to top yields by top-dressing with lime and fertilizers, or by a complete renovation of the existing sod.

C. D. Foy, of the Purdue agronomy staff, says that forage yields can be increased anywhere from 25 to 100% on established pasture by the use of fertilizer and lime.

A complete pasture renovation will often boost yields 200 to 500%, Mr. Foy says.

Mr. Foy recommends the banding method with new seedings. With this method, part of the fertilizer is placed in bands directly below the seed. When 400 to 600 lb. of phosphate-potash fertilizer is added, about 200 lb. should be used in banding and the remainder broadcast and disked into the soil before seeding. On light colored soils, the use of 10 to 20 lb. of nitrogen per acre in the mixed fertilizer banded near the seed will speed the establishment of seedlings, he says.

After a crop has been harvested from renovated pasture, the field should be top-dressed with phosphate-potash fertilizer to keep yields at a high level, Mr. Foy says.

★

Small patches of perennial weeds can be nearly eliminated if they are treated with soil sterilants right after harvest, says Keith Wallace, weed specialist for the South Dakota State College Extension Service.

"Soil sterilants applied in the fall remain potent for a long time. Weeds continue to grow until the hard freezes come," Mr. Wallace said. During this period and in early spring the sterilants take their toll. Great harm is done to weed roots. Weeds go into winter in a weakened condition. They also suffer further damage from cold weather."

★

Alfalfa needs a mixed fertilizer application when it's seeded, says John Gallo, University of Missouri extension soils specialist. Several different analyses can be equally satisfactory.

Thirty to 40 lb. of soluble phosphate and a like amount of potash are needed. Only about a third as much nitrogen is needed in the "starter" as such. Yet, the fertilizer, high in nitrogen, may supply enough nitrogen for the full needs of the first crop.

Satisfactory "starters" for alfalfa are 200 lb. of 5-20-20 per acre, 300 lb. of 4-16-16 or 3-12-12, 200 lb. of 4-24-12, or equal amounts of other similar analyses.

Such analyses as 12-12-12, 14-14-14, 10-10-10, and other 1:1:1 ratio mixtures used at the rate of 300 to 400 pounds per acre as a "starter" will supply nitrogen needs as well as phosphate and potash.

★

University of Wisconsin plant pathologists say they have come up with a way to control and possibly eliminate the potato rot nematode from infested land. At present such land is quarantined—taken out of potato production for an undetermined time. The scientists applied a double treatment of ethylene dibromide soil fumigant. Four gallons per acre of the material is applied on the plow sole as a first application. The land is plowed again after a 10 to 12-day wait and another two gallons per acre

is applied. The treatment is made in the spring and the land can be planted to potatoes the next spring.

The research on the potato rot nematode was conducted by H. M. Darling, J. C. Walker, Gerald Thorne, L. R. Faulkner and Vernon Perry.

The pest first appeared in Wisconsin in 1953. Before that it had occurred on this continent only in Idaho and Canada. Very little was known about the pest. Actually, the researchers say, average loss due to nematodes is quite low. However it can cause a complete loss of crops in local areas. Since it can spread in po-

tato tubers, land is quarantined immediately when found infested to prevent spread to other areas.

The material used here did not cut yields if the land was kept out of potatoes for a season following treatment. There do not appear to be problems of harmful bromide residues in the tubers, say the researchers.

★

With plenty of fertilizer and good management, permanent grass can make topnotch pastures for cattle or sheep. This statement comes from Charles Simkins, extension soils specialist, and Ermond Hartmans, extension farm management specialist, at the University of Minnesota.

To prove it, they are conducting pasture fertilizer demonstrations around the state. In last year's trials, they found that fertilizing grass pastures with 100 lb. of nitrogen, 60 lb. of phosphate and 60 lb. of potash resulted in 4,333 lb. of milk per acre

from the dairy cattle that grazed the area.

Cows on unfertilized but otherwise similar pastures produced only 2,000 lb. milk per acre. These cows received no feed other than pasture. Also, there were 223 "cow-days per acre" on fertilized pastures, compared to only 101 on unfertilized areas.

Figuring milk at local prices, the increase in milk yield resulted in a net return over fertilizer cost of \$66 per acre.

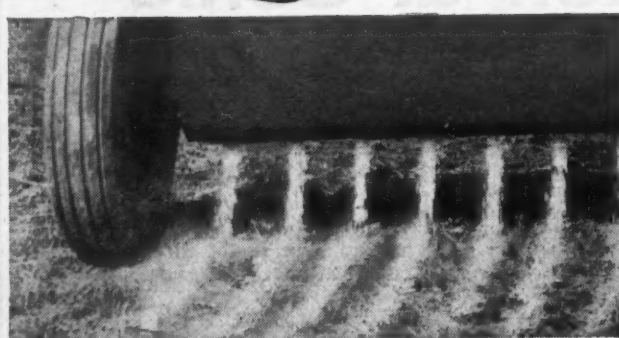
Fertilizing the grass pastures resulted both in more forage and more feed value. The protein content of the non-fertilized area averaged 14.3%, compared to 21.1% on the fertilized pasture.

This year similar tests are being conducted at the North Central Experiment Station, Grand Rapids, and on individual farms in Carlton, Itasca, St. Louis, Aitkin, Scott, Brown, Winona and Mille Lacs counties.

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HOUSTON, TEX.—1020 E. Holcombe Blvd.  
INDIANAPOLIS, IND.—1112 N. Pennsylvania St.  
KANSAS CITY, MO.—500 West 39th St.  
MINNEAPOLIS, MINN.—212 Sixth St. South  
NEW YORK, N. Y.—80 Broadway  
OMAHA, NEB.—6th Floor, WOW Building  
PASADENA, CALIF.—330 Security Bldg.

RALEIGH, N. C.—804 St. Mary's St.  
SALT LAKE CITY, UTAH—68 South Main  
SPOKANE, WASH.—521 E. Sprague  
ST. LOUIS, MO.—4251 Lindell Blvd.  
TAMPA, FLA.—3737 Neptune St.  
TULSA, OKLA.—1708 Ulta Square  
WICHITA, KAN.—501 KFH Building



# Adding Farm Chemicals, Lawn Supplies Bolsters Business of Texas Retailer

By JESS BLAIR  
Croplife Special Writer

Williams Feed & Supply of Midland, Texas, was "forced into building" a big, modern store building and stocking up on farm chemicals and garden supplies.

"That's right," says manager Johnny Williams. "Back in 1954 we had our backs to the wall. The drought had reduced livestock so much that our feed sales dropped to almost zero. It was then we decided to spend \$50,000 and bring our place up-to-date."

The store began handling fertilizer, insecticides, irrigation supplies, garden tools and later put in a large stock of pet supplies and equipment.

The investment has paid off handsomely, because Mr. Williams is now selling considerable fertilizer, another

50 tons of copperas to counteract the lime content in the irrigation water, and almost an equal dollar volume of small packaged fertilizer, insecticides, weed killers and lawn seed to townspeople.

Jumping into farm chemicals wasn't so easy as it sounds. Mr. Williams found farmers reluctant to try fertilizer in the new irrigated district. However, he knew the county agent had run field tests which proved that fertilizers were needed. He began working closely with the county agent and used the agent's findings as a good selling point.

Now every farmer uses fertilizer, and Mr. Williams has been partly

responsible for its use jumping from 100 lb. to the acre to as high as 600 lb. He has records showing that fertilizer has been mostly responsible for the yield increasing from a bale to the acre to almost three bales.

Williams Feed & Supply concentrates on long profit items and a wide variety of merchandise.

Mr. Williams had noted the tremendous growth of Midland as it jumped from 20,000 population past the 30,000 mark, with no signs of stopping. He knew here was a vast potential market for grass seed, lawn tools and garden supplies.

He departmentalized the store to attract this business and to speed up the handling of customers. Now there are attractive displays of all items, and they are placed together according to subject. For instance, a woman buying a lawn mower may not buy a parakeet also, but she will purchase grass seed, gloves, shears and other items related to the lawn. So every-

thing connected to lawns is placed one island display.

Mr. Williams also does a good business in parakeet cages and acts as selling agent between buyer and seller. If someone wants a bird, he finds it; and if someone has one for sale he can usually find a buyer in an hour's time. This brings people to the store and attracts new customers.

Mr. Williams says that in a town such as Midland where oil field people are moving in and out weekly, advertising is all-important. His medium is the classified pages of the daily newspaper, where he has a yearly contract.

One type of advertising that is effective is his humorous copy which he writes himself. One time he put this in the paper: "Johnny come on back home. I can get that sprinkler repaired down at Williams Feed & Supply."

"Such ads break the monotony of readers who see our name every day," he says, "and it always brings in a fresh spurt of business."

With so many new kinds of merchandise to handle, Mr. Williams has worked out several labor-saving devices. The front part of the store is 30 by 50 ft., while the store room just back of the partition is 50 by 100 ft. In this store room where the fertilizer and feed sacks are stored, he has an inter-communication system so he can keep in touch with employees. This system also has a radio hook-up where music can be played during the day.

Also in the store room he has a second office, complete with telephone, cash register and sales tickets. A customer can drive up to the side door, make his purchase and have it loaded, then pay for it without ever coming into the front of the building.

Another profitable device is his sunken loading dock. He can have a truck back into this sunken pit until the level of the truck bed is even with the storeroom floor.

"We can unload a truckload of fertilizer in half the time it once required," Mr. Williams says, "and it's twice as easy handling."

One of the main reasons for the store's success the last two years has been because of good employees. He usually keeps four or five employees besides himself, but during the winter months the force is reduced to two. One employee is now 63 and will soon reach the age of retirement, but Mr. Williams intends to work out a part-time retirement plan with him.

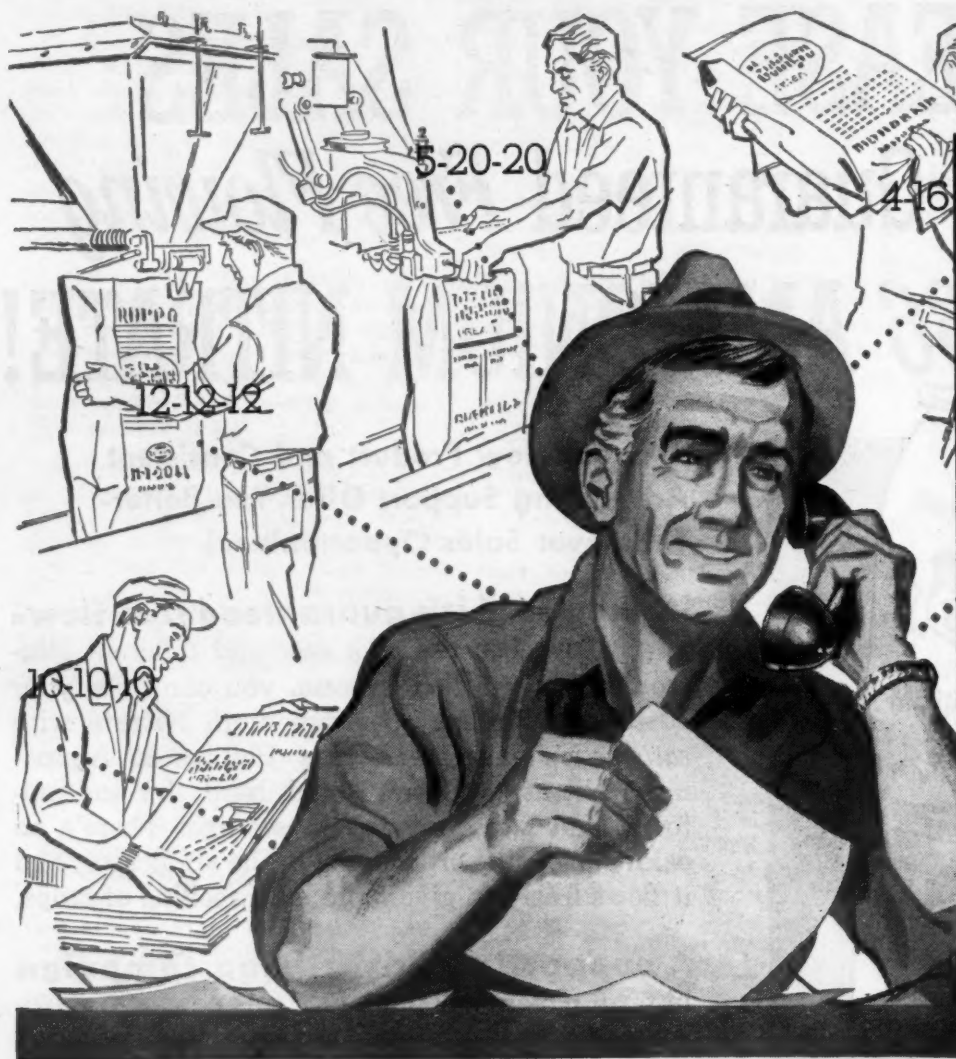
"He's too valuable a man to lose," Mr. Williams says. "I think a lot of business owners should get rid of the idea that a man past 50 is no good. Sometimes they are the best employees you can find. They're responsible, they know the business, and they know how to meet people courteously."

The store has a delivery route, delivering merchandise once a day. This is quite a moneymaker, Mr. Williams says, and costs only about \$50 extra a month.

The truck is painted and lettered so that people can see it on the streets every day. This advertising alone will pay for the expense of operating it, not to mention the new business it brings to the store every week, Mr. Williams says.

## BOOSTING BARLEY YIELDS

EAST LANSING, MICH. — Michigan's average winter barley yield could be boosted from 35 to 50 bu. an acre with good production practices, according to Leyton Nelson, Michigan State University extension farm crop specialist. Fertilizer application should be based on soil tests, but in the absence of tests Mr. Nelson recommends use of about 300 lb. of high analysis fertilizer such as 5-20-20, along with supplemental nitrogen



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## Two Former USDA Officials Honored At NAC Meeting

SPRING LAKE, N.J.—Two long-time officials of the U.S. Department of Agriculture's Agricultural Research Service were honored by the presentation of special merit scrolls during the National Agricultural Chemicals Assn.'s annual meeting, Sept. 6.

The men were Dr. W. G. Reed, who retired Aug. 31 as head, pesticide regulation section, and K. P. Ewing, who retired on Aug. 31 as head, division of insects affecting cotton and other fiber plants.

In presenting the scrolls Fred W. Hatch, NAC president, commended both men on their long service to agriculture and their many contributions to agricultural progress.

Dr. Reed received his Ph.D. in veterinary medicine from the Chicago Veterinary College in 1918, and was a practicing veterinarian from 1918 to 1929. He served as a meat inspector for the U.S. Department of Agriculture from 1929 to 1945, when he was named head of the Insect Division, USDA. This division was renamed the Pesticide Regulation Section in 1953.

During Dr. Reed's administration the Insecticide, Fungicide and Rodenticide Act of 1947 was enacted, and later the Pesticide Regulation Section was given USDA functions in assisting in the operation of the Miller Pesticide Residue Amendment to the Food, Drug and Cosmetic Act, enacted in 1954.

Mr. Ewing, a research entomologist with USDA for 37 years, has made outstanding contributions to improve the yield and quality of cotton through development of better insect control methods. He was awarded USDA's superior service award in 1949 for this work, and was named Texas' "Man of the Year" by a southern farm paper in 1950 for

his outstanding service to agriculture.

Mr. Ewing was graduated from Mississippi State College and joined USDA as a research entomologist in 1920. He was named head of the newly formed cotton research laboratory at Waco, Texas, in 1939. There he and his staff pioneered in discovering the value and proper use of many new insecticides, now widely used throughout the cotton-growing states. In 1953 he was named head of cotton insect research for USDA with headquarters at Beltsville, Md.

## Agronomy Society To Meet in Atlanta

ATLANTA—More than 1,500 persons are expected to attend the "Golden Jubilee" meeting of the American Society of Agronomy which will be held at the Atlanta Biltmore here Nov. 18-22.

W. M. Myers, head of the department of agronomy and plant genetics at the University of Minnesota and vice president of the society, is general program chairman.

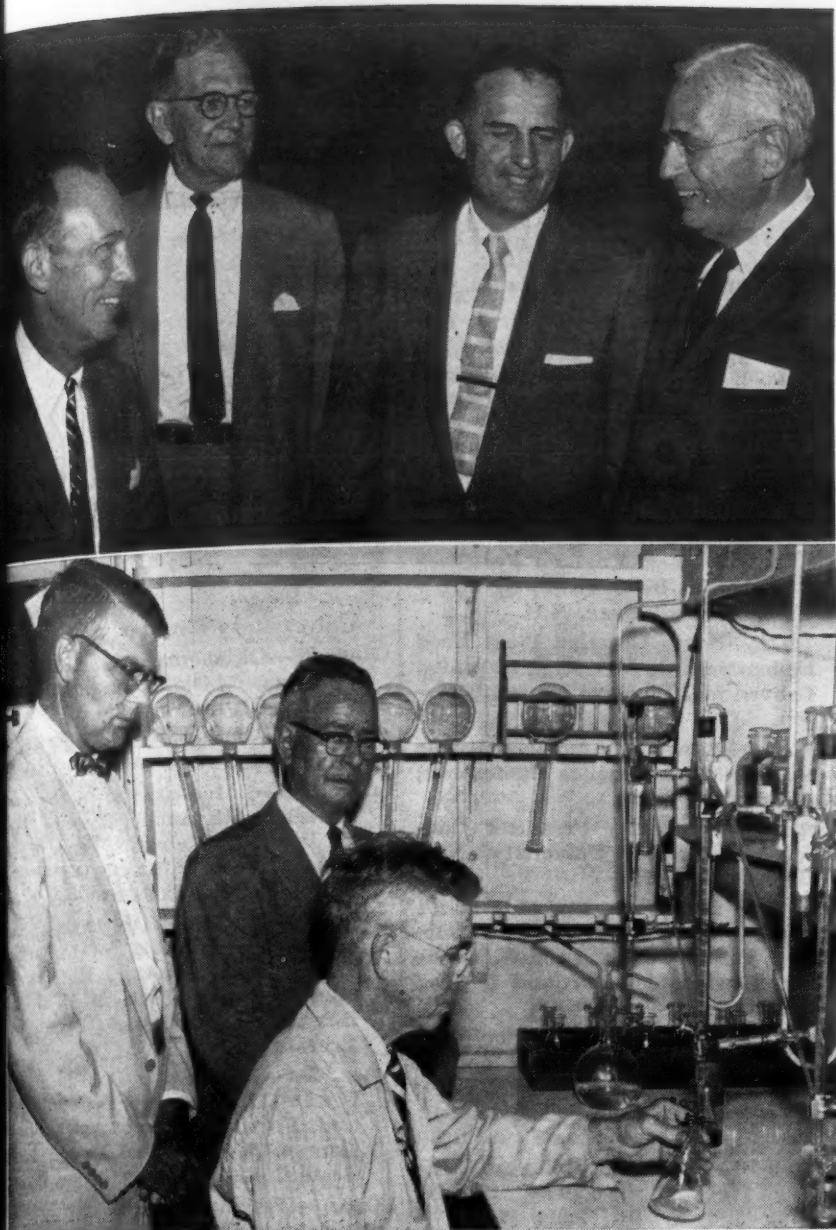
## Alabama Shipments

MONTGOMERY, ALA. — Alabama fertilizer shipments during July totaled 17,152 tons, compared with 16,468 tons in July, 1956, according to the State of Alabama Department of Agriculture and Industries. Shipments for the first 10 months (October-July) of this fiscal year amounted to 927,333 tons, a decline from 994,393 tons in the same period a year earlier.

REMEMBER TO ORDER

# CHASE BAGS

There's None Better!



AT KENTUCKY MEETING—The above scenes were snapped at the recent Kentucky fertilizer conference held at the University of Kentucky. In the top photo, left to right, are W. M. Newman, Price Chemical Co., Louisville; John A. Miller, Price Chemical Co.; Dr. Russell Coleman, executive vice president of the National Plant Food Institute, Washington, and J. W. Collis, Federal Chemical Co., Louisville. Below are R. A. Allgood, Cooperative Fertilizer Service, Louisville; G. D. Ayres, Armour Fertilizer Works, New Liberty, Ky., and H. R. Allen, University of Kentucky Experiment Station.

## KENTUCKY CONFERENCE

(Continued from page 1)

ers have gradually moved to higher grade fertilizers. In 1940, the average fertilizer had 17 lb. of nutrients per 100 lb., but in 1956 it had 27 lb.

The morning program of the conference consisted of talks by University of Kentucky staffers. A visit to the laboratories and greenhouses of the experiment station was scheduled in the afternoon.

Some pessimism prevailed among the fertilizer company representatives, because of an unfavorable season for expansion of fertilizer use. At the time of the conference, Sept. 4, drought existed in many counties. The season was generally "spotted", with more or less damage to about all crops, although as a whole this might be considered a good farm year.

Bruce Poundstone, head of the University of Kentucky department of feeds and fertilizers, presided at the meeting.

Dr. E. C. Doll, University of Kentucky Agricultural Experiment Station, told the group that at the present time, the farmer's profit is to a large extent dependent upon his efficiency of production. The use of the proper kind and amount of fertilizer, or balanced fertilization, is the first step in this direction.

In Kentucky nitrogen, phosphorus and potassium have frequently been the limiting factors in plant growth; in addition, boron is often needed for the production of alfalfa and of red clover seed. No other elements have definitely been found to be deficient in Kentucky soils, although there are some indications that zinc may possibly be limiting corn produc-

tion in certain areas, Dr. Doll said.

Past experience in Kentucky has shown that sound fertilizer recommendations can be made if reliable soil tests and a complete cropping and fertilizing history are available, Dr. Doll said. Additional research is being carried on to improve both soil testing methods and soil test interpretation and to give further information concerning the responses to fertilizers on various soils throughout the state.

Dr. Doll reported that in one test potash applied to pasture helped to keep down weeds and boosted the growth of orchard grass, tall fescue and ladino clover. Ten dollars spent for muriate of potash raised forage production 2,700 lb. an acre, he said.

## AACC Announces Sales Appointments

NEW YORK—The American Agricultural Chemical Co. Sept. 10 announced that T. J. Mahoney, formerly of the Havana, Cuba, sales department, has become sales manager for Havana branch sales and sales promotion. Philip Stauderman, formerly salesman for the Carteret, N.J., branch, has become assistant manager of Pierce, Fla., sales.

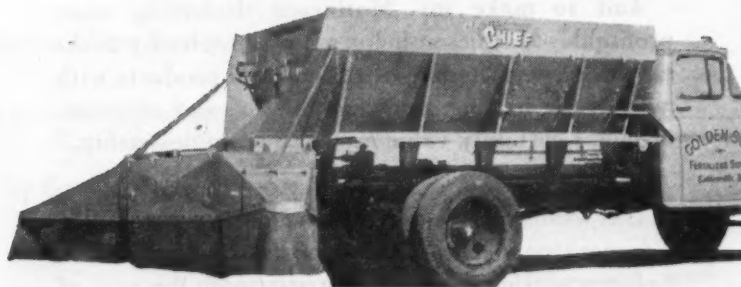
## ARIZONA CIRCULARS

TUCSON—The University of Arizona has issued three revised insect circulars, all authored by J. N. Roney, extension entomologist. The circulars are entitled "Controls for Vegetable Insects," "Fruit Insect Control Hints" and "Arizona Insect Control Recommendations for 1957."

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## MEETING MEMOS

Nov. 18-22—American Society of Agronomy, Annual Meeting, Atlanta Biltmore Hotel, Atlanta, Ga.

1958

Jan. 21-22—North Carolina Pesticide School, College Union Bldg., North Carolina State College, Raleigh.

**EDITOR'S NOTE**—The listings above are appearing in this column for the first time this week.

Sept. 24-25—New England Fertilizer Conference, Bald Peak, Colony Club, Melvin Village, N.H.

Sept. 25—South Carolina Plant Food Educational Society, Eighth Annual Convention, Clemson House, Clemson, S.C.

Oct. 2-4—Eleventh Annual Beltwide Cotton Mechanization Conference, Shreveport, La.

Oct. 3—New Jersey Fertilizer Conference, Rutgers University, New Brunswick, N.J.

Oct. 3-5—Pacific Northwest Plant Food Assn., Annual Convention, Sun Valley, Idaho, Leon S. Jackson, Lewis Bldg., Portland 4, Ore., Secretary.

Oct. 7-8—Western Agricultural Chemicals Assn., Fall Meeting, Villa Hotel, San Mateo, Cal., C. O. Barnard, 2466 Kenwood Ave., San Jose 28, Cal., Executive Secretary.

Oct. 9-10—Shell Nematology Workshop, Hotel Kingsway, 108 N. Kingshighway, St. Louis, Mo.

Oct. 9-11—Florida Fruit & Vegetable Assn., 14th Annual Convention, Hotel Fontainebleau, Miami Beach, Fla.

Oct. 14—Sixth Annual Sales Clinic of the Salesmen's Assn., American Chemical Society, Hotel Roosevelt, New York.

Oct. 15—Association of Official Agricultural Chemists, 71st Annual Meeting, Washington, D.C., Dr. William Horwitz, Box 540, Benjamin Franklin Station, Washington, D.C., secretary-treasurer.

Oct. 17—Conference on Chemical Control Procedures for Industry Chemical Control Analysts, Shoreham Hotel, Washington, D.C. Sponsored by National Plant Food Institute.

Oct. 18—Association of American Fertilizer Control Officials (States Relations Committee, 8 p.m. Oct. 17), Shoreham Hotel, Washington, D.C., B. D. Cloaninger, Box 392, Clemson, S.C., Secretary-Treasurer.

Oct. 21-22—Fertilizer Section, National Safety Congress, LaSalle Hotel, Chicago.

Oct. 29—Grassland Farming Conference, Rutgers University, New Brunswick, N.J.

Oct. 29-30—Seventh Annual Northwest Garden Supply Trade Show of Oregon Feed & Seed Dealers Assn., Portland, Ore. Masonic Temple.

Oct. 29-31—Entomological Society of Canada and Entomological Society of Alberta, Annual Meetings, Lethbridge, Alberta.

Oct. 31—19th annual meeting, Middle West Soil Improvement Committee, Sherman Hotel, Chicago. Z. H. Beers, 228 N. LaSalle St., Chicago, executive secretary.

Oct. 31-Nov. 1—Second Annual Southern Fertilizer Conference and Second Annual Southern Soil Fertility Conference, Dinkler Plaza Hotel, Atlanta, Ga.

Nov. 3-5—California Fertilizer Assn. 34th Annual Convention, St. Francis Hotel, San Francisco, Sidney H. Bierly, General Manager, 475 Huntington Drive, San Marino 9, Cal.

Nov. 6-8—Fertilizer Industry Round Table, Sheraton Park Hotel, Washington, D.C.

Nov. 13-15—National Aviation Trade Assn., Annual Convention, Hotel Adolphus, Dallas, Texas.

Nov. 17-19—National Fertilizer Solutions Assn., Annual Convention, Netherland-Hilton Hotel, Cincinnati, Muriel F. Collie, 2217 Tribune Tower, Chicago 11, Ill.

Nov. 18-20—Carolinas-Virginia Pesticide Formulators Assn., Carolina Hotel, Pinehurst, N.C. W. R. Peel, 516 S. Salisbury, Raleigh, N.C., secretary.

Nov. 25—Oklahoma Fertilizer Dealers Conference, Oklahoma State University, Stillwater, Okla.

Nov. 26—Oklahoma Soils and Crops Conference, Oklahoma State University, Stillwater, Okla.

Dec. 1-3—Southern Seedsmen's Assn., Jung Hotel, New Orleans.

Dec. 2-5—Entomological Society of America, 5th Annual Meeting, Hotel Peabody, Memphis, Tenn., R. H. Nelson, 1530 P St., N.W., Washington 5, D.C., Executive Secretary.

Dec. 2-5—Cotton States Branch, Entomological Society of America, 32nd Annual Meeting, Hotel Peabody, Memphis, Tenn., M. E. Merkle, Box 202, Leland, Miss., Secretary-Treasurer.

Dec. 3-4—Iowa State College Fertilizer Manufacturer's Conference and Fertilizer Dealers' Short Course, Memorial Union, Iowa State College campus, Ames, Ia.

Dec. 5—Second Annual New Mexico Irrigation Exposition, Eastern New Mexico Fairgrounds, Roswell, N.M., Al W. Woodburn and William Harrington, c/o Southwest Public Service Co., Roswell, co-chairmen.

Dec. 8-12—Vegetable Growers Association of America convention, Jung Hotel, New Orleans, La.

Dec. 9-12—Chemical Specialties Manufacturers Assn., Hollywood Beach Hotel, Hollywood, Fla.

Dec. 10-12—North Central Weed Control Conference, 14th Annual Meeting, Hotel Savory, Des Moines, Iowa. Lyle A. Derscheid, agronomy department, South Dakota State College, Brookings, Program Chairman.

Dec. 11-13—Agricultural Ammonia Institute, Seventh Annual Meeting, Hotel Marion, Little Rock, Ark., Jack F. Criswell, Claridge Hotel, Memphis, Executive Vice President.

Dec. 12-13—Beltwide Cotton Production Conference, Hotel Peabody, Memphis, Tenn.

1958

Jan. 7-8—Texas Fertilizer Conference, Texas A&M, College Station, Texas.

Jan. 13-15, 1958—Weed Society of America and Southern Weed Conference, joint meeting, Peabody Hotel, Memphis, Tenn.

Jan. 21-23—California Weed Conference, San Jose, Cal.

Feb. 13-14—Agronomists-Industry Joint Meeting, Edgewater Beach Hotel, Chicago, sponsored by the Middle West Soil Improvement Committee, Z. H. Beers, 228 N. LaSalle St., Chicago 1, Ill., Executive Secretary.

Feb. 20-22—Nitrogen Conference, University of Minnesota, St. Paul, M. W. Mawhinney, Smith-Douglass Co., Albert Lea, Minn., Chairman.

March 4-5—Western Cotton Production Conference, Hotel Cortez, El Paso, Texas, Conference Sponsored by the National Cotton Council and the Five State Cotton Growers Assn.

June 15-18—National Plant Food Institute, Annual Meeting, Greenbriar Hotel, White Sulphur Springs, W. Va.





Joseph P. Scroggs

### Joseph P. Scroggs New PCA Representative

WASHINGTON—Potash Company of America has announced the appointment of Joseph P. Scroggs as sales representative for the Georgia-Tennessee territory. Mr. Scroggs will also work the Florida territory in conjunction with Paul C. Ausley. J. Robert Mell, who in the past has serviced these accounts, has been transferred to the Washington office.

A native of Georgia, Mr. Scroggs was graduated from the University of Georgia with a B.S. degree in agriculture. After graduation, he taught vocational agriculture at the Norcross Consolidated School, Norcross, Georgia, for two and a half years. He resigned to take a position with a seed company in Athens, Ga. Immediately prior to joining the Potash Company of America he was employed as the assistant sales manager of the Atlanta office of the Lion Oil Co. He now is stationed at the Potash Company of America, southern sales office, Candler Bldg., Atlanta, Georgia. The telephone number is Murray 8-8870.

### Chemagro Research Sections to Move

PITTSBURGH—Effective Oct. 1 the sections of the Chemagro research department now located on Neville Island Road, Pittsburgh 25, Pa. will move to Kansas City, Mo. The address for Gordon M. Williams, assistant director of research, the analytical, formulation and product development sections and the research library will be: Chemagro Corp., P.O. Box 4913, Hawthorn Road, Kansas City 20, Mo.

All correspondence with these sections and shipment of residue samples should be sent to the new address as of Oct. 1, the company said. Dr. R. von Rumker, director of research, and the field research section will retain the present address at 437 Fifth Ave., New York 16, N.Y.

### Oregon Nut Crops Make Comeback

PORTLAND, ORE.—Oregon and Washington nut growers are in business again. This season's favorable growing weather made possible a near record filbert crop and a walnut crop that is almost double last year.

Most Oregon filbert growers have been amazed how their trees came back after the hard-hitting 1955 freeze. They have good reason to be elated, too, since Oregon and Washington 1957 filbert crop is estimated by the State Crop Reporting Service at 10,800 tons, more than three times as large as the abnormally small 1956 output and 34% above average. The Beaver state's 1957 walnut production, estimated at an indicated 5,400 tons, compares with the 2,800 ton weather-limited 1956 output and the average crop of some 7,330 tons.

### Antibiotic Causes Tumor-Like Bodies in Plant Disease Spores

STANFORD, CAL.—Antibiotics have caused cancer-like growth in spores of plant disease fungi, two University of Minnesota scientists reported here recently.

J. J. Christensen, head of the university's plant pathology department, and Patricia Allison, plant pathologist, told the annual meeting of the American Institute of Biological Sciences that filipin, an antibiotic, added at certain levels to Helminthosporium spores caused tumor-like bodies and general abnormal growth either within the spore or in the young sporeling.

This finding may have an important bearing on developing control measures for some plant diseases, the scientists added. Helminthosporium is a blight disease that has been a major problem in wheat and barley in past years.

Dr. Christensen and Miss Allison had used filipin to induce mutations in Helminthosporium sativum organisms. Reason for these tests was first, to find out, under controlled laboratory conditions, how frequently mutations in plant disease organisms may occur in the field, and second, to give background information on how these diseases may be controlled.

The researchers found that adding filipin at low levels to Helminthosporium spores produced mutations, while high levels stopped growth completely. Intermediate doses, though, caused the abnormal growth and tumor-like bodies to form. These bodies resembled galls or tumors that are known to be produced by bacteria and viruses in seed-bearing plants, Dr. Christensen and Miss Allison said.

### NEW TANKER

MIDLAND, MICH.—A sister ship to the Marine Dow-Chem—designed specifically for the bulk shipment of liquid chemicals—has been ordered by the Dow Chemical Co. The 18,000-ton vessel will be built in the Quincy, Mass., yard of Bethlehem's shipbuilding division. Keel-laying is scheduled about Oct. 1, 1958, and launching about April, 1959. Delivery is scheduled in July. The new tank ship will join the Marine Dow-Chem and the Marine Chemist in moving Dow products to U.S. and foreign ports. It will be owned and operated by the Marine Transport Lines, Inc., and chartered by Dow. The other two ships are also leased by the company from Marine Transport.

### 1956 Fungicide Test Publication Available

WINCHESTER, VA.—“Results of 1956 Fungicide Tests” reprinted from a series of articles appearing in Agricultural Chemicals may be purchased in bound and covered form for \$1 per copy by sending orders with remittance to Dr. A. B. Groves, department of plant pathology, Virginia Agricultural Experiment Station, R.R. 3, Winchester, Va.

The publication of these results is under the sponsorship of the American Phytopathological Society. It is a continuation of the publication of results formerly provided through a supplement of the Plant Disease Reporter, Plant Disease Epidemics and Identification Section, U.S. Department of Agriculture.

The Temporary Advisory Committee on Collecting and Disseminating Data on New Fungicide Tests of the American Phytopathological Society has arranged for the recent publication of data and the continuation of a program for annual publications of fungicide test results in the future. Dr. A. B. Groves, department of plant pathology, Virginia Agricultural Experiment Station, Winchester, Va., will be in charge of this project during the current year.

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## PESTICIDE BUYING INFLUENCES

(Continued from page 1)

port concerning fertilizers at the 1956 National Plant Food Institute convention.

"Farm people seek and accept new products and methods of operation from several different sources," they said. "This information is received from their community, from informal social groups in their locality, from formal groups such as associations, clubs, churches, and from their own 'family value system.'"

"The process by which these people accept ideas normally develops in this order: (1) awareness; they have heard of the idea but lack details, (2) information; interest develops, further facts are obtained and possibilities of the idea are seen, (3) evaluation; the idea is put to a mental trial and the alternatives are weighed, (4) trial; the idea is given experimental use and small-scale use, and finally (5) adoption; the idea enters large-scale use, continued use and there is customer satisfaction."

The project conducted by Dr. Bohlen and Dr. Beal has covered a wide variety of farm products and practices, from hybrid seed corn and contour plowing to 2,4-D. Farmers were interviewed regarding how they heard about each product or where they sought or received information during each of the five stages of reaching acceptance: awareness, information, evaluation, trial and acceptance.

"In general, farm people become aware of new farm products through mass media," the speakers declared. "Articles and advertising in newspapers, magazines and over radio and TV lead by a wide margin in this category over government agencies, neighbors and friends, and dealers and salesmen."

"Interest develops and information is obtained in the same order: first, mass media; second, government agencies; third, neighbors and friends, and finally dealers and salesmen; but government agencies follow mass media very closely in volume of mentions during the interviews."

"For evaluation of a new product farmers look to their neighbors and friends first, government agencies second, mass media third and salesmen and dealers last," Dr. Bohlen and Dr. Beal continued, "and this same order of importance is given for sources of information during the trial period on a new product. Finally, after adoption of the product and it is in steady use on the farm, the farmer continues to seek information from neighbors and friends first, followed by government agencies, mass media and then dealers and salesmen."

To whom did farmers go to seek information during the five stages of the development of 2,4-D? The speakers revealed that their studies showed farmers approached generally the same sources of information as the average cited above at least through the first three stages of awareness, information and evaluation. Mass media was overwhelmingly mentioned in the awareness stage; 55% against 19% for government agencies, 19% for neighbors and friends and 7% for dealers and salesmen.

In the information stage mass media continued to lead as a source, but government agencies and neighbors and friends followed closely, and dealers were not too far behind. During the evaluation period neighbors and friends were in the lead.

Contrary to the average findings, it was discovered that salesmen and dealers were the leading source of information during the trial stages of 2,4-D, and this major influence continued in the adoption stage.

Dr. Bohlen and Dr. Beal surmised this may be due to the fact that most agricultural chemical products

involve a mechanical attachment for application. Because of the need for a capital investment, they said, farmers became more closely tied to dealers and salesmen when the product was being put to use.

In the closing stages of their presentation the speakers discussed the rate of adoption of new agricultural products and the classes of persons involved in the adoption. The average curve of adoption was described as very slow during the early stages with a sharp upturn when a majority of the farmers begin to accept the product. This is followed by a leveling off as the product comes into general acceptance.

Classes of farm people involved and the order in which they accept a new product are (1) innovators, (2) early adopters, (3) early majority, (4) majority and finally the (5) non-adopters, the speakers declared. Innovators are relatively few in number and can be described as owning large farms; having considerable risk capital; a high status in the community, numerous outside contacts and are active in outside affairs. Early adopters normally are younger than the innovators, are well-educated, social-minded and active in affairs of the community.

The early majority have a medium high social standing; are the informal leaders among their neighbors and friends and make up the general class of meeting-goers. The majority are older with less education than the previous classes and are not as attentive to mass media. Non-adopters are the oldest and have the least number of contacts, limiting their social activity mostly to relatives. They are most resistant to change in ideas and methods, Dr. Beal and Dr. Bohlen added.

The speakers concluded that a better understanding of the sociological make-up of the farm market will lead to greater and quicker progress in the introduction of new agricultural chemical products. Attention should be given to all sources of farm information when a new product is introduced, they said, and it is hoped that this research will assist in determining which sources are most effective at the various stages of market development.

### John P. Widlar Dies After Auto Accident

CARSON CITY, NEV.—John P. Widlar, 40, Redwood City, Cal., died here recently from injuries he received several days earlier in a two-car collision near here. Mr. Widlar was a sales representative for Ames-Harris-Neville Co., San Francisco bag manufacturer.

The head-on collision also took the lives of Mr. Widlar's mother-in-law and the driver of the other car who, authorities said, pulled into the wrong lane while passing a hay truck.

Mr. Widlar's wife and two children, Chris, 10, and Shannon, 5, were also injured. Chris was still hospitalized last week.

Before joining the Ames-Harris-Neville Co. about a year ago, Mr. Widlar was with the Chase Bag Co. for many years, starting with the organization in Detroit. Subsequently he was sales manager at Denver and later at the Kansas City office of the firm.

## PRICE

(Continued from page 1)

said that its only contemplated announcement affecting the fertilizer industry is a change in tank car detention schedule from the present 30-day free unloading time to five days maximum free time, excluding Saturdays, Sundays and holidays, effective Nov. 1.

## Monsanto Promotes Executives in Inorganic Chemicals Division

ST. LOUIS—Promotion of six executives in a major realignment of responsibilities within Monsanto Chemical Co.'s Inorganic Chemicals Division has been announced here by J. L. Christian, vice president, division general manager.

John R. Eck of St. Louis who has been divisional director of development and engineering and T. K. Smith, Jr., also of St. Louis, who has been divisional director of marketing, were promoted to the newly created positions of assistant division general manager. Herbert F. Weaver, who has been the divisional director of manufacturing, becomes executive administrator for the division, also a new post.

All sales and development functions for the division will be under Mr. Smith's direction; all manufacturing, research and engineering will report to Mr. Eck and all administrative and service functions will report to Mr. Weaver.

At the same time, Mr. Christian announced the promotion of Edward J. Bock of St. Louis to the position of director of marketing. Mr. Bock has been associate director of marketing for the past year. John M. Depp of Kearny, N.J., who has been manager of the division's plant there, becomes director of manufacturing and will move to St. Louis.

Robert M. Erickson of St. Louis, who has been assistant to the director of manufacturing, will replace Mr. Depp as plant manager at Kearny.

## Solutions Association To Hear Panel Talks

CHICAGO—A panel discussion on essentials of success for the liquid fertilizer industry has been announced for the annual convention of the National Fertilizer Solutions Assn. to be held at the Hotel Netherland-Hilton in Cincinnati Nov. 17-19.

Members of the panel will be Dr. John K. Pfahl, assistant professor of finance, Ohio State University, who will talk on sales ethics; Dr. Gordon Ryder, Ohio State University extension agronomist, whose topic will be agronomy, and Dr. John W. Sharp, associate professor in agricultural economics at the university, who will discuss economics.

The panel discussion will be heard at 2 p.m. Nov. 19. It will be followed by a discussion on "Additives to Fertilizer Solutions," with presentations to include "Recent Developments of Insecticides and Herbicides," "Chelate Applications," and "Gibberellic Acid."

Another speaker announced for the convention is Howard R. Lathrope, Indianapolis, agronomist for the Nitrogen Division, Allied Chemical & Dye Corp., who will talk on "Successful Educational Meeting." The presentation, to be aimed particularly at the dealer level, will cover details of how to call and hold a successful meeting.

## North Carolina Pesticide School Set for Jan. 21-22

RALEIGH, N.C.—The 1958 North Carolina Pesticide School will be held Jan. 21-22 at North Carolina State College in the College Union Bldg. The purpose of the school is to review the latest research findings and make pesticide recommendations for 1958.

The program, covering herbicides, fungicides, insecticides and application equipment, will be of interest to such groups as dealers in pesticides, formulators, manufacturers, county agents, farm superintendents and vocational agriculture teachers, according to H. Eldon Scott, extension entomologist, and school chairman.

## ASC MEETING

(Continued from page 1)

Smith, Olin Mathieson Chemical Corp., Baltimore. He said that anhydrous ammonia supplied nearly one third of all the direct application fertilizer nitrogen used in the U.S., thus putting it in first position in this regard.

He said that since its general use (except in California) has developed almost entirely within the past ten years, its present position seems to indicate this first or primary product of all synthetic ammonia plants has agronomic merit as well as economy.

Agronomists, and especially soil chemists, are interested in what (mass action) reactions take place when this active volatile alkali is injected into a soil as compared with the incorporation of equivalent nitrogen as approximately neutral salts. "As chemists we cannot overlook this difference, even though as agronomists we may be inclined to summarize (prematurely?) and conclude that there is little difference other than cost per pound of nitrogen applied in the field," he said.

Considerable laboratory and field research on the chemical and physical reactions of anhydrous ammonia has been done; enough to show that soil organic matter in some soils may be fully as important as clay in combining and retaining the ammonia, that availability tests for other plant food elements show increased solubility in the ammonia zone of application, that there are physical changes including increases in water-stable aggregates, and that the sterilizing effect on soil organisms is such as to offer potentialities if equipment to obtain a greater diffusion in the soil is devised.

"However, the field is wide open; the research that has been done merely points the way. There are real opportunities in laboratory, greenhouse, and field in broadening the horizon, developing new methods and techniques, and especially in placement with respect to the root systems of crops," Dr. Smith pointed out.

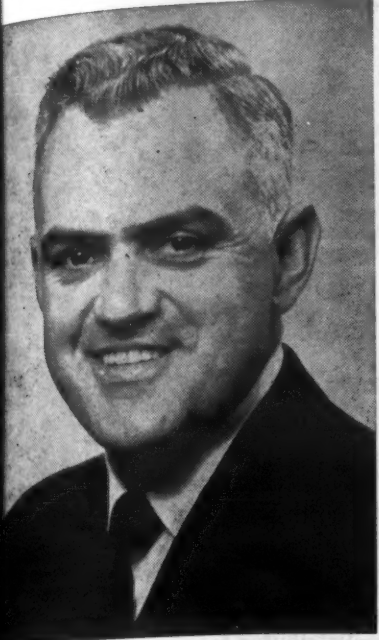
Up to the present, the direct application of anhydrous ammonia has helped supply the increased demand for nitrogen fertilizers, to some extent replacing other nitrogen fertilizers in the field and in manufacturing complete fertilizers. As the commercial problems of distribution and servicing at the dealer level are solved, ammonia will replace much of the nitrogen heretofore supplied in complete fertilizers, resulting in more economic grades lower in nitrogen, but higher in other plant foods, he predicted.

"New Horizons for Fertilizer and Turf," by Fred V. Grau and James M. O'Donnell, Nitro-Form Agricultural Chemical Co., Woonsocket, R.I., was the title of another paper presented.

The authors said that fertilizer and turf are "like bread and butter—each needs the other." Turf is starved for recognition by the fertilizer industry, which, in turn, can benefit by recognizing the needs of turf. The potential is big, they said. "Careful study reveals nearly 14,000,000 acres of turf (all kinds) in the U.S., which costs \$2 to \$3 billion a year to maintain. Fertilizer on turf is beneficial, by increasing turf density, resistance to wear, and efficiency of water use, and reducing weed populations." Some kinds of turf use efficiently 1,000 lb. nitrogen an acre annually, and a reasonable application of 100 lb. nitrogen an acre annually (1½ ton of 10-5-5) would require nearly 7,000,000 tons of 10-5-5.

"This potential of fertilizer usage represents a challenge and a new horizon to the fertilizer industry. Fertilizers are needed that are tailored to the needs of turf. Urea-form fertilizers represent a new horizon to both industries," they concluded.





Dave Flook

**SALES APPOINTMENT** — Dave Flook, Denver, has been named sales representative for the Raymond Bag Corp. in the Rocky Mountain area. Mr. Flook has completed the recently inaugurated sales training course for Raymond representatives at the firm's Middletown, Ohio, headquarters. The training course is designed to give a thorough background on multiwall bag manufacturing and efficient service to new company representatives. Mr. Flook will cover the Rocky Mountain Region from his headquarters in the Commonwealth Building, Denver.

### Fertilizer Boosts Alfalfa Yields in Minnesota Tests

ST. PAUL—Heavy doses of fertilizer containing phosphate and potash can pay off handsomely on alfalfa, regardless of whether the fertilizer is applied in spring or fall. This conclusion is reported by J. M. MacGregor and J. R. Brownell, University of Minnesota soils scientists, and W. W. Nelson, agronomist at the Northeast Experiment Station, Duluth. This research has been conducted during the past 6 years at the Rosemount Experiment Station. Here are some examples of findings in these experiments:

On one set of plots, 1,000 lb. of fertilizer per acre was applied the spring before seeding and 200 lb. were topdressed annually. On half these plots, the scientists used 0-20-0 fertilizer, and they used 0-20-20 on the others.

From 1951-56, plots receiving phosphate only averaged .62 ton annually more than unfertilized plots, while those receiving both nutrients yielded 1.32 tons more annually. Based on 1956 fertilizer prices, and figuring alfalfa at \$20 per ton, that meant \$6.12 more net income per acre each year from phosphate only and \$15.40 per acre from using fertilizer with both phosphate and potash.

In trials comparing 0-20-20 with 5-20-20 yields over the same period were practically the same for the two different applications.

### Union Bag Announces Sales Promotions

NEW YORK—Walter Shorter, vice president in charge of paper and bleached board sales for Union Bag-Camp Paper Corp. has been named vice president and general sales manager for the company. In his new position he will be responsible for the direction and coordination of all major line sales activities.

At the same time, the company has announced the appointment of Clark Reynolds as assistant to the vice president and general sales manager. A member of the Union organization since 1940, Mr. Reynolds has served in various sales capacities, as well as manager of the sales-manufacturing control department.

## Gloomicides

"I don't like to say anything that might embarrass the summer boarders," said an old farmer to his new hired hand. "If I frown at you when we are at the table, that means for you to quit eating."

"All right," replied the man. "I don't like to say much myself. If I frown back at you, that means I ain't goin' to stop."

"How come your wife doesn't sing in the choir any more?" a Sunday dinner guest asked.

"Oh," replied the host, with a sly glance at his wife, "she stayed home one Sunday, and a lot of people in the church wanted to know how much it had cost to fix the organ."

Smitty: "Sorry, old man, to hear about your wife running away with that butler."

Jonesy: "Oh, that's all right. I was going to fire him anyway."

In the old days the man who saved money was a miser; nowadays he's a miracle man.

He went to a drugstore and asked for a small tube of toothpaste. He was handed a tube marked "large." When he objected, the clerk explained: "Large is the smallest size we have. The next size is 'giant' and then comes 'super.' If you want the small size, you have to ask for 'large.'"

The young bride stormed into the grocery store.

"I want my money back. This flour is too tough."

"Too tough?" queried the grocer.

"Yes. I used it to bake a pie for my husband and he could hardly cut it with a knife!"

A little boy had been to Sunday School for the first time, and when asked what they did, he said: "Everybody sang."

"What did they sing," asked the mother.

"I don't know what the rest of them sang," he informed her, "but I sang Casey Jones."

"You can't beat the system," moaned the student after his last quarter grades. "I decided to take basket weaving for a snap course, but two Navajos enroll and raise the curve, and I flunk."

## Books on Soils and Soil Management

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## U.S. Scientists on Guard Against Enemy Sabotage

Biological warfare has been described in different magazines and newspapers in such a way that the public has come to think of it as planted germs designed to kill off the human population. This is part of the picture, all right, but not the whole.

Since the United States has been able to defend itself in past wars because of the production of farms and factories, an enemy might well be expected to try to weaken or destroy these resources by any means possible.

**Deliberate introduction of disease as an act of sabotage, for instance, could cripple our livestock and crop industries. This could limit our food supply as well as many of our valuable sources of clothing and medicine.**

To prevent such an eventuality, an alert team of USDA, state and local specialists around the country stands ready to go into action in case of emergency to save livestock and crops from disease and destruction. This team now operates on a full-scale, peacetime basis to help to prevent any foreign livestock and plant pests and diseases from coming into the U.S., and to control those already at large within the nation.

The team is also prepared to slip quickly into high gear in case of actual biological warfare, which would include the deliberate use of disease-producing agents against animals and plants. One of the important new functions of this team is to inform farmers how to minimize the effects of radio-active fallout on livestock, crops, and farm products.

Because of the nature of things, an enemy bent on causing confusion and a maximum of damage to American agriculture, could select the host, disease, time, and place of outbreak to make animal and plant disease control more difficult and to cause devastating losses. For instance, agents could introduce similar diseases at the same time to confuse diagnosis and control. Enemy scientists, as well as our own, know that some animal diseases have similar symptoms and are difficult to distinguish, even though one might be harmless and the other fatal. A combination of different diseases might produce confusing, contradictory signs and different incubation periods.

**With all this in mind, the logical group selected for the job of protecting American agriculture from such evils was the agricultural research service of USDA. The long time experience of its regulatory personnel in handling the cooperative State-Federal operations made it a natural. Thus, a nation-wide network was formed comprising state and federal regulatory officials, representatives of diagnostic laboratories, state agricultural experiment stations and the agricultural and veterinary colleges.**

These planners knew that control of biological warfare on livestock meant, basically, control of foreign diseases. Principles of disease control and eradication are the same, whether diseases get in accidentally or deliberately. Thus, planners decided the best way to deal with biological warfare on livestock was to have a well-trained standby force that could be quickly expanded in time of war. With this in mind, a State-Federal Emergency Animal Disease Eradication Organization was set up in most states.

At the same time, it was decided to utilize existing state-federal channels to keep out foreign plant pests and diseases. State-federal cooperation had done a fast and efficient job in cleaning out many serious pests and diseases before they could get a foot-hold. Planners felt that it would be desirable to strengthen and expand

this cooperation and to back it up with more emphasis on reporting plant pests and diseases that we have.

Why is it so important to keep out livestock and plant pests and diseases? And why is it so hard to do?

In the past, many animal and plant pests and diseases have been regarded as peculiar to Europe, Asia, and Africa. But today's fast intercontinental air transportation and the buildup of trade and travel have given such pests and diseases new importance. These factors, plus our own fast livestock marketing, have greatly increased the danger of accidental and deliberate transmission. Furthermore, we have some 8,000 species of domestic insects competing for our food and fiber. Deliberate spread of foreign plant pests would complicate an already complex problem.

Up to now, time has been on our side. Shipments of livestock by sea took from 15 to 30 days. This period gave most diseases time to develop signs that could be observed. Today, for the first time in history, we are importing more animals by air than by ocean vessel. Animals now arrive in hours instead of days.

We move animals rapidly within our borders, too. The nationwide outbreak of vesicular exanthema in swine is a forceful example of how fast animal disease can spread. VE was limited for many years to California until 1952, when it escaped via raw garbage sent out of the state. Within 6 weeks, 18 states reported the disease, and a short time later, 13 more.

Florida's Mediterranean fruit fly infestation shows how fast plant pests can spread. This citrus pest was first brought to official attention in April 1956. By the time state and federal people were able to get a trapping program into full swing, they found they had over 1,500 infestations of the Medfly spread over 27 counties.

**It is apparent that foreign animal or plant pests and diseases getting into this country could quickly become widespread unless they are recognized promptly and immediate control steps are taken. So emergency planners set up a nationwide training program to instruct personnel to recognize, diagnose, and report these threats.**

Throughout the entire program, the pesticide industry has worked with this protective team of scientists and will continue to do so. The products made available by the trade are indispensable in holding back many types of plant diseases, insect pests, and any poisonous plants that might be introduced through either the carelessness of someone, or by design of enemy agents.

The 60-odd ground stations and some 20 ocean- and airports where these guardians keep vigil are doing a unique job of protecting our food supply.

### Quote

"The family farm is undergoing changes, but it is not on the way out. It has had to change in order to survive. It is becoming larger, it requires more skills, it takes more capital. But still, as has always been the case, most of our farm production comes from farms on which the capital, labor and management are supplied primarily by the farmer and his family. The percentage of our agricultural production which is turned out by family-size farms has not changed appreciably in the last 15 years. Three fourths of our farms are operated by those who own them. Two out of three farms have no mortgage debt. The family farm has withstood inflation, depression, war, drought and other disasters. It is withstanding the impact of a technological revolution. It will outlast the pessimists who predict its extinction."—Ezra Taft Benson, secretary of agriculture.



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Donald K. Ballman

### Donald K. Ballman, William R. Dixon Promoted by Dow

MIDLAND, MICH.—Donald K. Ballman, general sales manager of the Dow Chemical Co. since 1949, has been promoted to the position of director of sales, Leland I. Doan, president, has announced. He succeeds Donald Williams who recently was appointed director of corporate relations. Simultaneously, Mr. Ballman announced the promotion of William R. Dixon to general sales manager. Mr. Dixon has served as assistant general sales manager since 1951.

Mr. Ballman has been active in both sales and sales development since he joined the company in 1935. He started his career in the Dowicide sales section becoming its manager in 1937. His interest in product develop-



William R. Dixon

ment led to the formation of the company's technical service and development group in 1943 under his supervision.

In 1945 he was named assistant general sales manager, the post he held until his appointment as general sales manager. Last year he received the annual honor award of the Commercial Chemical Development Assn. for his pioneering efforts and leadership in product development work.

Mr. Dixon has been with the company since 1936, beginning in the Cellulose Products division. He was assigned to the New York office in 1939 as the company's first branch office salesman in the plastics field. He returned to Midland headquarters in 1941. Appointed assistant sales manager of the plastics department in 1943, he served in this capacity until his advancement to assistant general sales manager.

### Climax Announces Research Program

NEW YORK—A program totaling \$25,000 in agricultural grants-in-aid at ten universities and two independent research foundations will be sponsored by the Climax Molybdenum Co. during 1957-58, it has been announced by George S. Cripps, manager of agricultural development. Under this program, agricultural and biological research projects will be conducted on molybdenum as a trace element in an effort to compile additional data on its effect on plant life. Climax has sponsored agricultural research programs for the past eight years.

The new program will include field and laboratory work to be conducted by the following universities: University of California, Johns Hopkins University, University of Connecticut, University of Florida, University of Georgia, University of Hawaii, University of Michigan, Oregon State College, Rutgers University and Washington State College. In addition, work will be conducted by the Southwest Agricultural Institute and the Texas Research Foundation.

The 1957-58 Climax grants-in-aid program will include studies of molybdenum in relation to nitrogen fixation, molybdenum's role in enzyme systems and molybdenum and vanadium requirements of soil microorganisms. Field trials will be designed to compile data on molybdenum-lime plant responses on various soils, responses of legumes, molybdenum requirements of fruit trees and molybdenum responses of vegetable crops.

### International Award

HAMBURG, GERMANY—E. C. Stakman, former head of the plant pathology department at the University of Minnesota, has received an international award for his scientific contributions to plant protection. Dr. Stakman, who retired from the university staff in 1953, received the Otto Appel Medal at the opening session of the Fourth International Crop Protection Congress here. He is the first American to receive this medal since it was first awarded in 1952.

### Wisconsin Fertilizer Tonnage Increases 3% in 1956-57

MADISON, WIS.—Fertilizer shipments in Wisconsin during the fiscal year ended last June 30 totaled 426,254 tons, a gain of about 3% over 411,793 tons in 1955-56, according to the Wisconsin Department of Agriculture. Plant food content in 1956-57 amounted to 158,050 tons, a 2.8% gain over 153,509 tons the previous year.

Of the 1956-57 tonnage, 23,549 tons, or 5.5%, was bulk dry delivery. This included 21,483 tons of mixed goods and 2,066 tons of materials.

Tonnages for 1956-57, with 1955-56 tonnages in parentheses:

Complete mixed goods 307,951 (308,763), phosphate and potash mixtures 80,767 (71,639), superphosphates 5,086 (3,198) and other materials 32,450 (28,193).

### September Meetings Set For Missouri Dealers

COLUMBIA, MO.—A series of district field meetings have been scheduled for Missouri fertilizer dealers during September. The dates for the meetings were announced recently by John S. Falloon, extension soils specialist, University of Missouri College of Agriculture.

Mr. Falloon advises dealers to contact their county agents for information about travel plans for the meetings. Here are the dates and counties in which the meetings are scheduled:

Sept. 20, Ripley; Sept. 23, Wright; Sept. 24, Stone; Sept. 24, Clinton; Sept. 24, St. Francois; Sept. 25, Franklin; Sept. 25, Nodaway; Sept. 25, Dade; Sept. 26, Grundy; Sept. 26, Henry; Sept. 26, Shelby; Sept. 27, Callaway; Sept. 27, Scotland; Sept. 27, Chariton.

### South Carolina Group Plans Sept. 25 Meeting

CLEMSON, S.C.—A report on the National Plant Food Institute's program for expanded fertilizer use will be heard at the eighth annual meeting of the South Carolina Plant Food Educational Society, to be held Sept. 25 at the Clemson House here.

The report will be given by Dr. W. H. Garman, chief agronomist for the institute, on the morning program. Also to be heard on the morning session will be:

An address of welcome by Dr. R. F. Poole, president of Clemson College; "The Corn Contest," Hugh A. Woodle, Clemson extension agronomist; "Small Grain Plantings," Robert H. Garrison, head of the Clemson seed certification department; "Stubble Mulch Planting," J. T. McAlister, Soil Conservation Service engineer, Orangeburg, S.C., and "What's in the Bag," a National Plant Food Institute film.

In the afternoon Dr. J. F. Reed, American Potash Institute, Atlanta, will talk on "The Importance of Fertilizer Placement." B. D. Cloaninger, director of fertilizer inspection and analysis, Clemson College, will be in charge of a tour of Clemson's fertilizer department facilities.

Dr. George King, director of the Georgia Agricultural Experiment Station, Athens, will speak on "The South's Changing Agriculture," at the evening banquet.

### CHEMICAL DEBARKING

ST. PAUL—Chemicals can make removing bark from pulpwood a simple task, University of Minnesota forestry research shows. L. W. Rees and Cherng-Jiann Shue, foresters, have found that 2,4,5-T can be sprayed or brushed on standing aspen or tamarack trees that are later cut for pulpwood. Bark from treated trees then peels off easily.

## Classified Ads

Classified advertisements accepted until Tuesday each week for the issue of the following Monday.

Rates: 15¢ per word; minimum charge \$2.25. Situations wanted, 10¢ a word; \$1.50 minimum. Count six words of signature, whether for direct reply or keyed care this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies. Commercial advertising not accepted in classified advertising department. Advertisements of new machinery, products and services accepted for insertion at minimum rate of \$10 per column inch. All Want Ads cash with order.

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## CLASSIFIED ADVERTISING

### Plans Approved for Plant Science Building

FT. COLLINS, COL.—The Advisory Committee of the Colorado State Division of Planning has approved plans to construct a plant science building at Colorado State University, with an estimated cost of \$1,350,000. The recommendation is subject to approval and concurrence of W. M. Williams, director of the planning division, and Gov. Steve McNichols. Also approved by the Advisory Committee were plans for a bank of greenhouses to be located in the same general area and to be utilized in connection with the plant science building for both instructional and research purposes.

The plant science building will house the departments of horticulture, agronomy, entomology and botany and plant pathology. These divisions are presently located in various older buildings, most of which were built from 1891 to 1898.

## INDEX OF ADVERTISERS

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Allied Chemical & Dye Corp., Nitrogen Division	12, 13	Markley Laboratories	8
American Potash & Chemical Corp.	11	Merck & Co.	7
Anco Manufacturing & Supply Co.	11	Meredith Pub. Co.	7
Ashcraft-Wilkinson Co.	11	Wilson & Geo. Meyer & Co.	21
Baughman Manufacturing Co., Inc.	17	Miller Publishing Co., The	21
Bemis Bro. Bag Co.	17	Minerals & Chemicals Corp.	21
Blue, John, Co.	17	Mississippi River Chemical Co.	21
Bonneville, Ltd.	17	Monsanto Chemical Co.	21
Bradley & Baker	17	National Potash Co.	12, 13
Broyhill Company	17	Naugatuck Chemical Div., U. S. Rubber Co.	12, 13
Chase Bag Co.	17	Nitrogen Div., Allied Chemical & Dye Corporation	12, 13
Chemical Insecticides Corp.	17	Northwest Nitro-Chemicals, Ltd.	18
Chemical Service Corp.	17	Olin Mathieson Chemical Corp.	18
College Science Publishers	17	Pacific Coast Borax Co.	18
Collier Carbon & Chemical Corp.	17	Penick, S. B., & Co.	18
Commercial Solvents Corp.	17	Pennsalt of Washington Div. of Pennsalt Chemicals Corp.	15
Conray Products Co. Division	17	Phillips Chemical Co.	15
Consolidated Mining & Smelting Co.	17	Potash Company of America	3
Dallas Tank Mfg. Co.	19	Private Brands, Inc.	3
Davison Chemical Co.	19	Raymond Bag Co.	19
Dow Chemical Co.	19	Riverdale Chemical Co.	19
E. I. du Pont de Nemours & Co., Inc.	11	Shell Chemical Corp.	19
Duval Sulphur & Potash Co.	11	Simonsen Mfg. Co.	19
Emulsol Chemical Corp.	19	Sinclair Chemicals, Inc.	19
Flexco Products, Inc.	19	Smith-Rowland Co., Inc.	19
Frontier Chemical Co.	19	Sohio Chemical Co.	16
Gates Rubber Co.	2	Southern Nitrogen Co.	19
Grace Chemical Co.	2	Spencer Chemical Co.	19
Harshaw Chemical Co.	17	Spraying Systems Co.	4
Henderson Mfg. Co.	17	Stewart-Warner Corp.	7
Hercules Powder Co.	17	Successful Farming	7
Hough, Frank H., Co.	17	Tennessee Corp.	19
Hypro Engineering Co.	17	Union Bag-Camp Paper Corp.	5
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Kraft Bag Corp.	17	Valsicol Chemical Corp.	19





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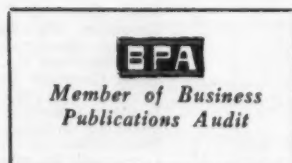
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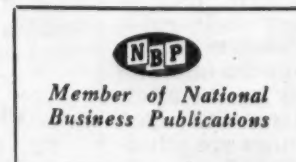
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